

STATE OF SOUTH CAROLINA
DEPARTMENT OF EDUCATION

High School Manual

Prepared by
B. L. PARKINSON
State High School Inspector



1923

Issued by
JAS. H. HOPE
State Superintendent of Education

South Carolina, Dept. of education.

High School Manual for Administrators and Teachers

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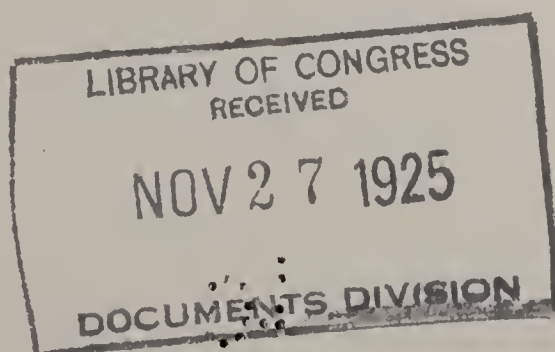
FOREWORD

TO HIGH SCHOOL TEACHERS AND ADMINISTRATORS:

In the preparation of this High School Manual much study and care and much expense have been required.

It is without doubt the teacher's friend in time of doubt or trouble. Make it your friend and counselor, for it is a safe guide. Use it for the development of South Carolina's high schools.

JAS. H. HOPE,
State Superintendent of Education.



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INTRODUCTION

The contents of this Manual represents with adaptations a consensus of what is considered to be the best theory and practice in the field of Secondary Education throughout the country. The practices recommended in this Manual have been tested by the author in his own experience as a high school teacher, high school principal, and city superintendent of schools. Constructive criticism of the Manual by those who use it is invited. By cooperating, persons interested in the high schools of the State can greatly improve them. The office of the High School Inspector welcomes such cooperation.

B. L. PARKINSON.

AIM AND OBJECTIVES OF SECONDARY EDUCATION

Probably the most comprehensive statement of the aim and objectives of secondary education has been made by the Commission on the Reorganization of Secondary Education.

Aim

“EDUCATION IN A DEMOCRACY BOTH WITHIN AND WITHOUT THE SCHOOL SHOULD DEVELOP IN EACH INDIVIDUAL THE KNOWLEDGE, INTERESTS, IDEALS, HABITS, AND POWERS WHEREBY HE MAY FIND HIS PLACE AND USE THAT PLACE TO SHAPE BOTH HIMSELF AND SOCIETY TOWARD EVER NOBLER ENDS.” (Cardinal Principles, Page 9.) In order to realize this aim, the Commission regards the following as the main objectives of secondary education. (Cardinal Principles, Page 10.)

Objectives

- 1. Health
- 2. Command of the fundamental processes
- 3. Worthy home membership
- 4. Vocation
- 5. Citizenship
- 6. Worthy use of leisure
- 7. Ethical character.

Many references in this Manual are made to the Reports of the Commission on the Reorganization of Secondary Education. Fourteen of these reports have been issued in pamphlet form by the United States Bureau of Education, and copies may be purchased from the Superintendent of Public Documents, Washington, D. C., at prices indicated below. A complete file of these reports should be made available for use of high school teachers.

Reports of the Commission

EDUCATION BULLETIN	Prices per Copy
1918, No. 35, Cardinal Principles of Secondary Education.....	5c
1917, No. 51, Moral Values in Secondary Education.....	5c
1918, No. 19, Vocational Guidance in Secondary Education.....	5c
1915, No. 23, The Teaching of Community Civics.....	10c
1916, No. 28, The Social Studies in Secondary Education.....	10c

1917, No. 2, Reorganization of English in Secondary Schools..... 20c

1917, No. 49, Music in Secondary Schools..... 5c

1917, No. 50, Physical Education in Secondary Schools 5c

1919, No. 55, Business Education in Secondary Schools 10c

1920, No. 1, The Problem of Mathematics in Secondary Education..... 5c

1920, No. 26, Reorganization of Science in Secondary Education..... 10c

1920, No. 35, Agriculture in Secondary Schools..... 10c

1921, No. 5, Part-time Education of Various Types..... 5c

1922, No. 5, Reorganization of Home Economics in Secondary Schools..... 5c

HIGH SCHOOL TERMINOLOGY

The terms below were presented at the general session of the Commission on the Reorganization of Secondary Education at Richmond, Virginia, in 1914, and since then have been submitted to every State Superintendent of Education in the United States for criticism and suggestions. At the Winthrop Conference of High School Principals and City Superintendents in 1922, it was decided that this terminology should be used in South Carolina.

In the United States, for the purpose of administration, schools are divided into two groups, the elementary or pre-adolescent group and the adolescent or secondary group. Practice in South Carolina includes the first seven grades in the elementary group, and the eighth, ninth, tenth and eleventh grades in the secondary group.

1. SECONDARY EDUCATION: While elementary education consists primarily in organizing the instincts and impulses of preadolescent children into working tools and interests, secondary education has for its particular sphere the general information and training in the facts and arts of civilized life. Secondary education is primarily concerned on the side of subject matter, with the differentiated character of the various subjects of instruction. Secondary education appeals to the pupil's appreciation, judgment, and sense of relative values.

Endorsed by
High School
Conference

General
Divisions

Terminology

2. HIGH SCHOOL: "High School is that part of the public school system in which are administered courses organized into one or more cultural or vocational curriculums, (either or both), entrance to which ordinarily presupposes the completion of the elementary curriculum. . . . The existence of a high school implies in any case pupils, teachers, and courses organized into one or more curriculums and an institution whose internal government and administration is distinct from and coordinate with that of the elementary school."

3. KINDS OF HIGH SCHOOL EDUCATION: "The different kinds of high school education are general, vocational, pre-vocational, industrial, agricultural, domestic, commercial, and teacher training."

4. COMPREHENSIVE HIGH SCHOOL: "It may be defined as a school designed to discover and meet the needs of all pupils of high school age, living within the territory served by the high school."

5. "SPECIALIZED HIGH SCHOOL is a school designed to give a particular type of high school education to those pupils who need that type of education."

6. "PROGRAM OF STUDIES refers to all the high school subjects offered in a given school without reference to any principle of organizing these subjects into curriculums."

7. "CURRICULUM is any systematic and schematic arrangement of courses which extends through a number of years, and which is planned for any clearly differentiated group of pupils."

8. "COURSE is the quantity, kind, and organization of subject matter of instruction in any high school offered within a definite period of time and for which a credit unit or fraction thereof is granted."

9. "A CONSTANT is a course required of all pupils in any grade or year."

10. "VARIABLE is a course not required of all pupils."

11. "CREDIT UNIT represents a year's study in any high school subject, and constitutes approximately one-fourth of a full year's work of a high school pupil."

12. "SCHOOL YEAR is the normal time required for the

completion of courses amounting to four credit units or their equivalent, and usually extends over a period of from thirty-six to forty-two weeks."

13. "HIGH SCHOOL MAJOR means three credit units in sequence in any high school subject."

14. "HIGH SCHOOL MINOR means two credit units of work similar in character to that described for a major."

15. "GRADUATION means ordinarily the completion of courses to the amount of fifteen credit units above the seventh grade and the fulfillment of requirements relating to standards of scholarship, observance of school discipline, and standards of morality generally."

16. "MARKS (not GRADES) means the qualitative estimates of a pupil's work in courses which constitute the official school record."

17. "GRADE (with the year, 9th, 10th, etc., attached), as 10th Grade, is used to distinguish the 'school class' of high school pupils, rather than freshman, sophomore, etc."

18. "PUPIL rather than student or scholar designates boys and girls enrolled in high schools."

19. "EXTRA CREDIT represents the satisfactory completion of those additional requirements for graduation for which credit units are not granted; as, for example, is often the case with music, gymnasium work or sewing."

20. "UNIT OF INSTRUCTION usually represents divisions of the course whose treatment extends over a half dozen, or a dozen, or even more class periods, depending largely upon the character of subject matter."

21. "ELECTIVE SYSTEM is the plan of administering the choice of pupils' subjects and courses whereby each pupil may receive teachers' advice, but may not be restricted in his selection."

22. "GROUP SYSTEM of administering pupils' choices of subjects and courses restricts elections and generally makes selections contingent upon the remainder of the work planned."

23. "CURRICULUM SYSTEM emphasizes chiefly the election of curriculums only."

SCHOOL PLANT

The school plant includes the grounds, building, and equipment.

SITE AND GROUNDS: The location of the site for a high school determines largely the usefulness of the school plant. Everything else being equal, there is no objection to locating the high school plant in the center of the high school population of the town. However, it is much more important to remove the high school plant from objectionable noises, dust, and unsightly surroundings, to a place where there will be a wholesome physical and moral environment, and adequate available play space than it is to locate it in the center of the high school population of the town or city if there are undesirable features connected with a central location.

Location

If possible, the high school building should be placed on an elevation which slopes from the building to insure satisfactory drainage. The soil on which the building is placed should be pervious or porous, because there is less tendency for ground air to rise into and permeate the school building when it is placed upon this type of soil.

Drainage
and Soil

The minimum size of any school grounds should be four acres in addition to the space on which the building itself is located. The National Education Association recommends that there be 272 square feet per child of available play and recreation space. This means that there should be a smooth, level, clear surface of 272 square feet per child on which pupils may play team games, unobstructed by trees, buildings, gulleys, rocks, and other obstacles.

BUILDING: The usefulness of a high school plant is determined largely by the location of the building on the lot. First, the building should not be so situated on the lot that it will take up an undue amount of play space. Other things being equal, it is a good plan to place the building on one corner of or on the margin of the lot, leaving the rest of the area for play space. Inasmuch as all classrooms should have east and west exposure to the sunlight, the building should be so located with reference to the points of the compass that every classroom will have an east and west exposure, if possible. When this is done,

Orientation

offices, shops, laboratories, and space that is not used throughout the day by pupils can have north and south exposure to the sunlight.

Fenestration

Windows should be placed on one side of a classroom only. This should be the long axis side on the left of the pupils. Classroom windows should have their bottoms set three and one-half or four feet from the floor, and their tops should extend to within six inches of the ceiling. The window area should be equal to one-fifth the area of the floor space of any classroom. There should be unusually large window area for toilet rooms, locker rooms, and cloak rooms.

Material

While brick or hollow tile constitute desirable material with which to construct a high school building, a frame building, if properly planned, is acceptable.

Shape

Simplicity and utility should determine the shape of any school building. The rectangular shape, T-shape, E-shape, and H-shape buildings are probably the most popular.

Height

The height of a high school building should never be more than two stories above ground, and there should be no basement space provided except for the furnace when it is thought best to place the furnace in the basement. There are many advantages in a one-story high school building.

Economy of Floor Space

Not less than fifty per cent. of the total floor area of any building should be devoted to the purpose of instruction. This means that corridors, stairs, walls, partitions, flues, and such like must not be allowed to consume too much space.

Adaptation of Floor Space

The high school is no longer a group of independent units which may be satisfactorily accommodated by a building made up of a group of classrooms and corridors under a common roof. The real high school is an institution characterized by varied courses and activities. While the U plan of the Clemson Bulletin on School House Planning is a splendid type of building for a rural graded school, it does not meet the requirements of a building in which to house a high school. In a high school building the floor space which may be devoted to instruction should be so arranged and apportioned as to provide for all activities of the high school. In every high school building, there should be in proper proportion classrooms and such special rooms as auditorium,

laboratory, library, study hall, store room, office, teachers' room or rooms, janitor's locker room, toilet rooms, cloak or locker rooms, and in the larger high school, drawing rooms, commercial rooms, nurse's room, and gymnasium. The standard classroom is supposed to seat not more than thirty-five pupils, and should be 24x30x12 or 27x21x12 feet. Laboratories are usually constructed too small. The library should be large enough to provide reading space for ten per cent. of the school at one time. The study hall should usually have a seating capacity of seventy pupils.

There should be toilet rooms on each floor for both sexes. These rooms should be well lighted and ventilated. In South Carolina climate, it is probably best to heat by steam radiators and ventilated through the windows. The water supply should be pure. It should come either from the city main or a deep bored well. In either case, it should be furnished to pupils through sanitary drinking fountains. These fountains should be located both inside and outside of the building.

Service
Systems

Corridors should be from eleven to thirteen feet wide. Stairways should be sound-proof, width five feet, risers not more than seven inches.

Corridors
and Stair-
ways

A pupil's school environment should not only be hygienic and sanitary, but it should be artistic. Dignity and simplicity should characterize the architecture of the school building. The school grounds or yard should be kept clear of scattered rubbish, trash, and paper, and be beautified with trees, grass, flowers, and shrubs grouped with artistic effect but without interfering with pupils' playground or the lighting of the building. On the inside color combinations should harmonize. In order to insure sufficient light and proper blending of colors, it is always safe to tint walls cream color and overhead ceiling an ivory color. On the walls of each classroom two or more art pictures framed in good taste should be hung. Window-boxes also add to the attractiveness of the building. Plaster casts of busts and mural decorations may be used to beautify halls and auditorium.

Aesthetic
Features

Trustees who are planning to erect a high school building should first contract with a reputable architect. They should

Building
Procedure

give this architect the number of pupils to be accommodated, the number of curriculums to be offered, together with some idea as to how the school is to be organized, and instruct him to make a preliminary study and submit pencil drawing of his preliminary plan. This preliminary plan should be approved by the State Department of Education before it is submitted to the trustees. If the trustees and principal approve of the preliminary plan, they should instruct the architect to give them an estimate of the cost of erecting a building according to this plan. If they are not pleased with the preliminary plan, they should instruct the architect to submit other preliminary plans for their rejection or approval. When finally a pencil sketch has been submitted that meets the approval of the trustees and the State Department of Education and the principal of the high school, and the trustees have received an estimate from the architect as to cost of construction, they will be in a position to submit a request to the people for a bond issue. Such request will have behind it facts and not guesswork. While the bonds are being voted and sold, the architect can prepare blue prints and specifications. This procedure saves time, money, and misunderstanding, and assures the trustees that they are spending the people's money in the most effective way.

Office

EQUIPMENT: The office of the high school principal should be equipped with a flat top desk, the drawers of which can be locked. In addition to this, there should be an office chair, three or four chairs for visitors, files for records and correspondence, a small cabinet with shelves in which books and temporary supplies may be kept, and a cabinet in which to hang coat, hat, umbrella and such like. This should constitute the minimum equipment of any high school principal's office. An office thus furnished provides a place where the principal may hold a private conference with a pupil or patron or teacher. In the larger cities, there should be a waiting room adjacent to the principal's private office, and other pieces of office furniture and equipment should be added.

The library should be equipped with book shelves, display boards, magazine racks, loan desk, and readers' tables for pupils.

Library

The auditorium should be equipped with auditorium chairs, a moving picture booth and machine, and the stage should be provided with a curtain and reading stand, together with some chairs. The auditorium should also be provided with a piano and victrola.

Auditorium

A high school classroom should be equipped with movable chair desks, which have drawers for books and are equipped with adjustable desk arms. In addition to these chairs, there should be a teacher's desk and chair, and a lock cabinet in which the teacher may keep books, umbrella, and wraps.

Classroom

A laboratory should be equipped with suitable tables, cabinets, and apparatus, as well as stools and lecture benches. Opening out of the laboratories, there should be supply rooms.

Laborato-
ries

A teacher's rest room should be equipped with a couch and comfortable chairs, and should be adjacent to toilet room.

Teaohers'
Rest Room

The gymnasium should be equipped with usable apparatus.

Gymnasium

The store room should be provided with ample shelf space and available storage room.

Store Room

The janitor's room should be provided with a table and with a lock cabinet in which he can keep and lock tools and supplies. A toilet for the janitor's use should be provided.

Janitor's
Room

Toilets should be furnished with direct flush fixtures and stalls with doors.

Toilets

Steam radiator equipment with boiler placed in small boiler room built separate from main building is recommended. The purchase of expensive apparatus for artificial ventilation is discouraged. In the smaller buildings, rooms should be heated by jacketed stoves.

Heat and
Ventilation

In installing either the tank or direct pressure fountains, school authorities should be sure that they are sanitary in reality as well as in name.

Drinking
Fountains

Vacuum Cleaners

Except in the largest, most expensive high school buildings, the purchase of expensive vacuum cleaning apparatus is discouraged.

References

1. School Architecture, by Donovan and others.
2. Score Card and Bulletin of Standards for City School Buildings, Bureau of Publication, Teachers' College, Columbia University.
3. Red Book, C. F. Williams & Son, Inc., Albany, N. Y.
4. Catalogs of School Supplies and Furniture.

HYGIENE AND SANITATION

Ventilation

Satisfactory ventilation for a classroom provides an abundant supply of moving, warm, humid air, which is clear of dust. Under ordinary conditions, absolutely quiet air is extremely uncomfortable. Through regulation of the windows and doors the air in any classroom should be kept constantly moving, so as to distribute currents of fresh air throughout the room. The temperature of classroom air should be neither hot nor cold but temperate. Sixty-eight degrees Fahrenheit is usually accepted as standard. If the temperature of classroom air varies each hour from sixty to seventy degrees, it will probably be better than for it to remain at sixty-eight or seventy degrees. The humidity of classroom air should stand at from fifty to eighty per cent. of saturation. All air entering classrooms should be as free as possible from dirt, dust, and offensive odors.

Light

An abundance of natural light should enter the classroom through windows located on the left side of the pupils. In order to insure proper lighting, the tops of the windows should be extended to within six inches of the ceiling. Window panes should be frequently washed; mullions between windows should not be more than twelve inches wide; and the color of the classroom walls should be cream, with an ivory colored ceiling.

Desks

To insure right posture desks should be adjusted to fit pupils, and placed so there is proper space between desks.

Accessory Rooms

Toilet rooms, cloak rooms, and locker rooms should be constantly flooded with direct outside light and ventilation.

The school grounds and building should be kept clean. The ground should be kept free of scattered paper, apple cores, banana peelings, trash, and debris of all kinds. The interior of the building, including corridors, stairways, cloak rooms, laboratories, auditorium, and classrooms, should be swept clean daily. This sweeping should be done in the afternoon after the pupils leave. When the dust has had time to settle after sweeping, all furniture, window sills, chalk troughs, and the like should be dusted with dustless brushes or mops slightly oiled. It is a good plan to use some kind of a sweeping compound or a dustless brush for sweeping. The janitor should be supplied with every device for removing dirt rapidly and easily, and removing dust particles from the building.

Cleaning

Erasers should be removed from the classroom and thoroughly cleaned daily. After being erased with clean erasers, blackboards should be rubbed with damp cloths daily.

Erasers dusted
Outside

The walls and floors of toilet rooms should be so constructed that they can be washed down with hose at least once a week, oftener unless toilet rooms are unusually well ventilated and lighted. All toilet fixtures, including handle of the main door, should be washed daily with a germicidal preparation. If surface toilets must be used, the kind shown on Page 75 of "Rural School Buildings," by R. E. Lee, "while not as sanitary as sewerage will, if properly constructed and kept, minimize the danger of spreading disease to such an extent that it may be called a sanitary privy. In its construction it should be made fly proof, ventilated as shown in the cut, and elevated off the ground, so as to keep earth dry and prevent the breeding of rats." Surface toilets should be cleaned and limed at least weekly.

Care of
Toilets

To insure hygienic conditions the law requiring teachers' health certificates and providing medical and health examinations should be enforced. Sections No. 1598 and No. 1667 provide for school building to be kept clean and for the control of contagious and infectious diseases in school. In order to insure the execution of these laws, school authorities should provide for periodic inspections of health conditions in the school. The best way to insure thorough inspection in all the schools is to place this responsibility

Enforce
School Health
Laws

upon the teachers and pupils under the supervision of the principal.

Device for
Inspection
of Cleaning

Have inspection blanks printed. These blanks should call for the following information:

- 1. Condition of floor
- 2. Condition of blackboards and chalk troughs
- 3. Dusting of school furniture

Monitor

Approved:

Teacher

Each week the teacher can appoint a pupil monitor who will reach school before the other pupils each morning and make an inspection of sanitary conditions. The pupil writes out the report and signs it. The teacher checks up, and either O. K.'s or corrects. This enlists the interest of teachers and pupils, and usually insures their cooperation in keeping the building clean. A weekly pupil monitor should also be designated to keep an hourly temperature chart on the board of each classroom as soon as the fires are started in the fall.

Health Inspec-
tion of Pupils

There is no reason why classroom teachers should not be trained to detect, through daily inspection of their pupils for health conditions, such things as defective sight and hearing, infectious and contagious diseases, deformities, and malnutrition. Some such inspection should be provided for in every school. When the teacher suspects disease or physical defect she can report to the principal, who may refer the case to the school or family physician.

References

Healthful Schools, by Ayres, Williams, and Wood, published by Houghton-Mifflin Company.
Dresslar's School Hygiene, by Macmillan.

JANITOR

Paid Jani-
tor

The janitor service in any school should be rendered by a healthy, honest, intelligent man who is paid for his full time to do this work.

Duties

The janitor should receive instruction and training from the principal as to what his duties are and as to how they

are to be performed. The janitor should be so thoroughly instructed as to the value of ventilation, light, and school cleanliness that he will find no excuse for negligence of his duties. The work of the janitor should be closely checked and supervised by the high school principal. It is the business of the janitor to keep the building and yard clean, and see that the school building is properly heated. It is also the business of the janitor to adjust school furniture when directed to do so, and to make such temporary repairs as are necessary.

The work of pupil janitors, whether they are paid or volunteers, is rarely satisfactory. All school boards should provide funds for the employment of a regular janitor who is not a pupil. When this is not done, however, and the paid or volunteer janitor service of pupils is depended upon, the school board and principal should see that the work is not neglected. As thorough work should be demanded of pupil janitors as of hired professionals. A method of checking the janitor's work has been suggested under the head of hygiene and sanitation.

Pupil
Janitors

WHEN TO MAKE REPAIRS AND ORDER SUPPLIES

All except emergency repairs should be done in summer vacation. Repair work should be begun immediately after school closes, so as to insure its completion before school opens. Immediately after the close of school each year, the principal should make an inventory showing the number and kind of textbooks, what accessory supplies, what apparatus, what maps, furniture, and janitor supplies will be needed for the coming session. Orders for all supplies should be placed not later than June 30, and should call for delivery at least three weeks before school opens in the fall.

Shop Early

RECORDS, REPORTS, AND FORMS

It is essential to the best interests of pupils and teachers of any school that permanent progressive, and, if possible, cumulative records of each pupil's school career, from the kindergarten through the high school, be made and preserved. Each year the record of each school should show the fol-

Records

lowing facts about each pupil: Name, place, and date of birth; vaccinated, or not vaccinated; name of parent or guardian; occupation of parent or guardian; residence; name of school; date of admission; grade; room; teacher; days present; health; conduct, and scholarship. Other facts about the school career of a pupil are desirable. The above are considered essential.

Record Systems

The first step in making and preserving school records is the selection and adoption of a record system. In February, 1912, the committee of the National Education Association on "Uniform Records and Reports" made its report which was adopted. This report provided for a comprehensive, adequate school record system, which is probably the best available today. All blanks and forms and files necessary to the installation of this system may be purchased from Shaw-Walker Company, Muskegon, Michigan. The C. F. Williams & Son, Inc., Albany, New York, are distributors of supplies for a most excellent record system, which is an adaptation of and probably an improvement upon the one recommended by the National Education Association Committee. Interested school officials can secure samples of these supplies by writing to the above named companies. The McGregor Company, Athens, Georgia, publishes special blanks approved by the State Department of Education of South Carolina, and on which individual records of high school pupils may be kept. This blank used in connection with the register supplied by the State Department of Education makes a fairly satisfactory record for the smaller high schools which are not able to purchase the higher priced supplies named above.

Daily Re- cording

The second step in the making and preserving of school records is daily recording of facts which should be recorded about each pupil. The purchase of supplies on which to keep records does not make the record unless the facts are recorded. The practice of "writing up" a register once a week, once a month, or once a year is not satisfactory. Daily recording of facts is essential to complete records. Accuracy in recording facts about pupils is essential to a true record. Depending upon memory for school records, and

“doctoring” figures which go to make up the record of a pupil and of a school injures the teachers, pupil, and the school.

The third step in maintaining a satisfactory school record is to preserve the records which are made from year to year. Such records should be locked up when not in use. Files and cabinets should be provided for school records, and when possible such depositories should be fire and burglar proof.

Preservation
of Records

Annually the high school principal should make a written report to his immediate superior upon the condition of the high school of which he is principal. This report should contain only significant facts. It may or may not be published according to the discretion of the board.

Annual
Report

During each school year, there are sent from the State Department of Education at least five, sometimes six, forms for the high school principal to fill in and return. The information requested on these forms is made necessary either by law or by regulations of the State Board of Education. Consequently, such forms should be filled out *promptly, accurately, and legibly*, and returned to the Department on or before the date named for return.

Forms

ORGANIZATION

In its organization each public high school must meet the requirements of the law and the Rules and Regulations of the State Board of Education governing State aided high schools.

The law authorizing public high schools requires:

Requirements
of Law

1. A local tax of not less than four mills for running expenses.

2. The full time of as many as two teachers above the seventh grade.

3. A minimum legal enrollment of twenty-five pupils above the seventh grade.

State Aid

For high schools meeting requirements of law and the regulations of the State Board of Education, the law provides State aid as follows:

1. Teacher's Salary—the full amount paid by trustees to lowest-salaried full-time high school teacher, up to \$100.00

a month, if the teacher is serving her first year in the school, \$105.00 a month for a second year, \$110.00 a month for a third year, provided no other full-time high school teacher is paid less than \$100.00 a month.

2. An allowance to the district of \$250.00 for the year to a school with three full-time high school teachers or \$500.00 for the year to a school with four or more full-time high school teachers.

3. Whenever the enrollment in the high school grades averages more than fifteen per full-time high school teacher, the State Board may pay the high school \$3.00 a month tuition for actual attendance of high school pupils in excess of this average for each high school pupil enrolling from outside the school district, or from outside the group of cooperating districts as provided under Section 1812c. A detailed statement of such attendance will be called for in the spring.

4. The salary apportionment to a centralized high school may be doubled in the discretion of the State Board.

Overcrowding
Aid

To relieve overcrowding in the elementary grades of a school district which supports a high school, the law guarantees an adequate teaching corps in the elementary grades, provided the following requirements are met:

1. The district must vote and be paying for current expenses a local tax of not less than ten mills.

2. In the grades below the high school, the enrollment in any one classroom under any one teacher shall not be less than twenty-five or more than fifty pupils.

3. There shall be an average monthly attendance of at least fifteen pupils in each elementary classroom.

4. The authorized schedule of teachers' salaries: In the elementary grades, \$90.00 per month for a first grade certificate, \$75.00 per month for a second grade certificate, \$60.00 per month for a third grade certificate; in the high school, \$100.00 per month for an assistant and \$130.00 per month for the superintendent or principal. High school teachers doing their second year's work in the same posi-

tion may be allowed an additional monthly stipend of \$5.00 or doing their third year's work in the same position may be allowed \$110.00 with a corresponding increase for the superintendent or principal.

5. Salaries in excess of this schedule must be paid from a higher rate of local taxation.

State and Federal aid may be procured for promoting vocational education in the high school. (See pages 135-149.)

State and
Federal Aid

In the legislative enactment authorizing public high schools, this statement appears: "Provided that such high school meets all the requirements of this Act and the regulations of the State Board of Education." * Section 1812e of the General School Law of South Carolina makes further provision for supervision of public high schools by the State Board of Education. This section reads as follows:

§ 1812e. POWERS OF STATE BOARD OF EDUCATION: That the State Board of Education shall have full authority to prescribe all such regulations as may not be inconsistent with this Act, and with General School Law, to provide for the inspection and classification of the high schools under this Act, to make regulations for the apportionment and disbursement of the State appropriation under this Act, and to pay out of the State appropriation the salary and traveling expenses of a High School Inspector.

Under the authority given above the State Board of Education has formulated the following rules and regulations relative to the organization and operation of public high schools:

Authority of
State Board

Rule 1. High schools receiving State Appropriations must run not less than eight months, or 160 days.

Length of
Session

Rule 2. High school recitation periods in all major subjects must be not less than forty minutes each. The State Board recommends forty-five minute periods except in very small classes.

Length of
Recitation
Periods

Rule 3. A school employing five teachers or six teachers shall not use any part of the time of more than two teachers in its high school department.

Apportionment
of Teachers

* Sec. 1812a.

Rule 4. A school employing seven or eight teachers may use not more than one-half the time of a third high school teacher in the high school department: Provided, that the enrollment in the high school department and the elementary department are in such proportion as to justify this division. All such schools are to be rated as two-teacher high schools in receiving appropriations.

Provision for
Elementary
Grades

Rule 5. The elementary grades of any school must be adequately provided with teaching force before three or more teachers will be permitted in a high school receiving State aid. No teacher in the elementary department of any school receiving State high school aid may have or teach more than fifty pupils a day.

Principal's
Teaching Time

Rule 6. The supervising principal of a two-teacher high school must devote not fewer than six periods a day to teaching.

Rule 7. The supervising principal of a three-teacher high school must not be counted as a full-time teacher unless he devotes as many as four periods a day to teaching.

Rule 8. The supervising principal of a four-teacher high school will not be counted as a full-time teacher unless he devotes as many as four periods a day to teaching.

Minimum
Teaching
Periods

Rule 9. No high school teacher other than the supervising principal will be counted a full-time teacher unless such teacher devotes as many as five periods a day to actual teaching.

Disproportion-
ate Salaries

Rule 10. No high school will be accepted for State aid whose superintendent or supervising principal's salary is unreasonably out of proportion to the number of teachers he has to supervise or to the salaries of his assistants.

Rule 11. In a two-teacher high school the amount of State aid shall not exceed \$900.00 a year, except for tenure.

Rule 12. To high schools of three or more teachers the initial appropriation will be the lowest high school salary up to \$900.00 a year. Any additional appropriation will be made in accordance with the revised high school Act of 1919.

Scaling

Rule 13. All contracts between district Trustees and teachers will be fully protected in the apportionment of State high school aid up to the limits fixed by the contracts

and the High School Law. In case the development of the high school certificate properly registered with the *State* school funds, this scaling will be made proportionately in the tuition allowance.

Rule 14. After July 1, 1917, no high school will be given State aid when there are fewer than five pupils enrolled in any grade.

Minimum
Grade
Enrollment

Rule 15. No high school student in a State aided high school will be permitted to carry more than five major subjects at a time. Under this regulation English is counted one subject. Latin with grammar or prose composition is one subject, history with civics is one subject, arithmetic, algebra, and geometry are three separate subjects, and each division of history is a separate subject. *It is recommended that not more than 15% of the pupils of any high school grade be permitted to carry as many as five major subjects at a time.*

No. Subjects
Per Pupil

Rule 16. Each high school teacher employed in a school receiving State high school aid must have a valid first grade high school certificate properly registered with the *State Bureau of Examiners, Columbia, S. C.* College diplomas are not certificates.

Certificates

Rule 17. After July 1, 1917, every high school teacher employed in a State aided high school must give evidence of his or her fitness to teach the subjects he or she teaches in that school. This fitness is to be determined by the course or courses pursued by the teacher in his or her preparation to teach, or by examination prepared and directed by the State Board, or by inspection of the teacher's work to be reported to the State Board in writing by its representatives in cases where the teacher has already taught these subjects five years or more.

Teacher Qual-
ification

Rule 18. State aid may be withdrawn from any high school after two months' notice to the local Board for inefficient teaching, for the continuance of an inadequate course of study, or for lack of attendance.

State Aid
Withdrawn

Rule 19. Every high school receiving State aid shall render with reasonable promptness such reports as are required by the State Board. All such reports are to be countersigned by the Secretary of the local School Board. Any

Reports

State High
School Diplo-
mas

school knowingly making an incorrect report in any matter affecting the standing of the school or its appropriation thereby subjects itself to being penalized by the State Board.

Rule 20. To qualify its graduates for State high school diplomas, the entire teaching time of three full-time high school teachers is required in any high school. (Experience proves this to be necessary.)

Rule 21. Graduates of a new high school will be eligible for State high school diplomas when such high school has been organized and operated as a recognized or State aided high school four scholastic years, provided they meet other requirements.

Transferred
Pupils

Rule 22. While it is required that candidates for State high school diplomas offer four thirty-six weeks' sessions of approved high school work done in a satisfactory manner in the form of credentials, exceptions will be made in the case of worthy pupils who attend rural graded or other schools for part of their training, provided these pupils can present satisfactory records of full-time work done in tenth and eleventh grades of recognized public high schools.

Diploma
Group Re-
quirements

Rule 23. After June, 1923, to become eligible for a State high school diploma, a pupil will be required to show satisfactory completion of subject matter grouped as follows:

English	4 units
One major	3 units
One minor	2 units
Another minor	2 units
Free electives	4 units
Total	<hr/> 15 units

Internal
Organization

The internal organization of South Carolina High Schools and their relationship to the school board, the State Department of Education, and the public may be illustrated graphically, as in Chart I.

This chart gives a true picture of the organization of a few of the larger high schools. In a majority of cases, however, the superintendent's and principal's functions are per-

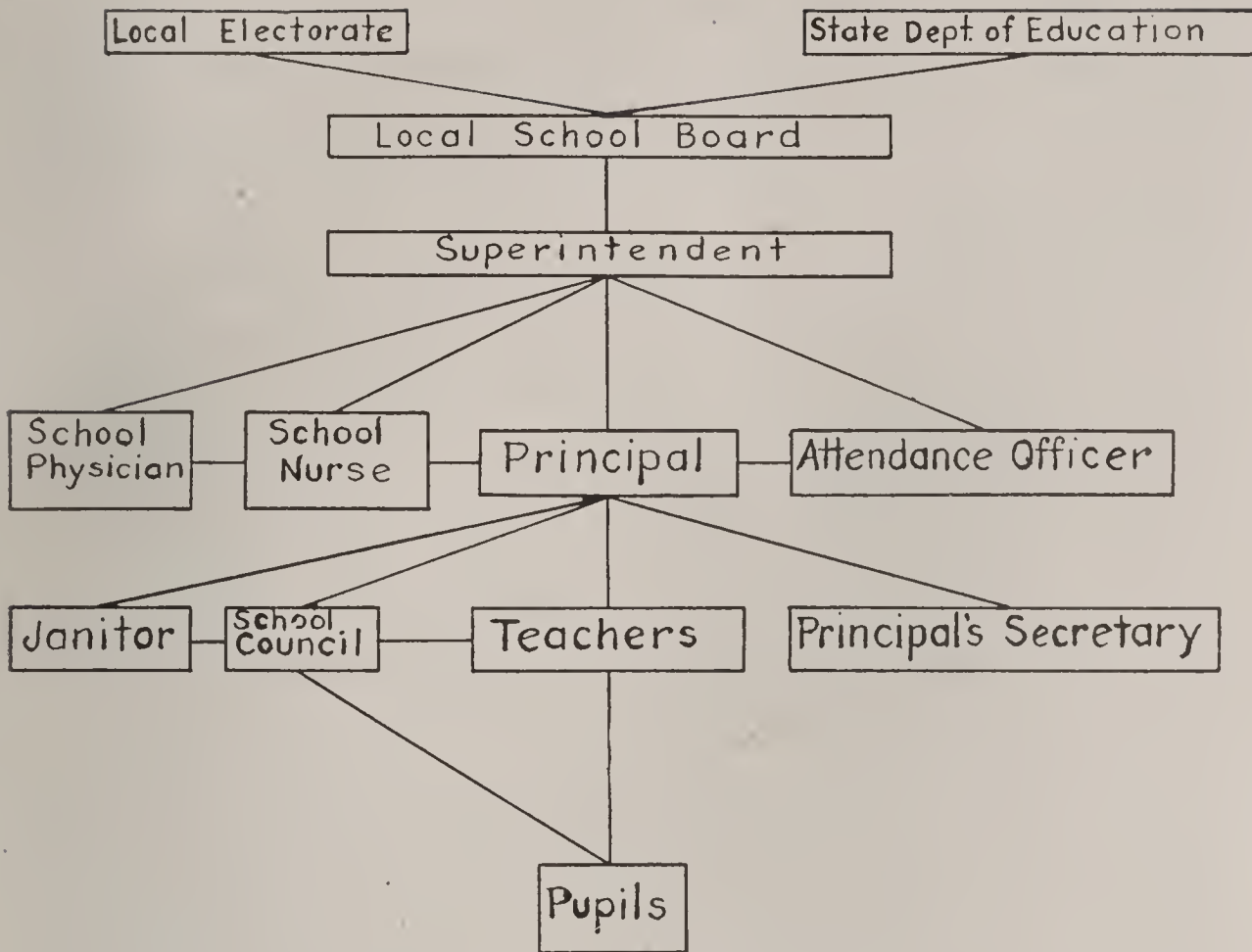


CHART I

formed by one person, and often this same person teaches from one to eight periods a day. In most of the schools there is no school physician, nurse, attendance officer, and principal's secretary. The chart represents a standard toward which all high school officials may work.

THE SCHOOL BOARD:

The school board is directly responsible to the people for the school. It is the function of the school board to select the superintendent or principal and hold him responsible for an administration of the school that will meet the needs of the community. The board should study the general educational needs of the children of the community and secure funds for meeting these needs. They should pass upon school policies. In short, the duties of the board are legislative; the duties of the superintendent or principal are administrative and executive. The superintendent or principal cannot be held responsible for results unless he is given great freedom in the selection of teachers and in their assignment, and in working out ways and means whereby results may be obtained.

Duties

THE HIGH SCHOOL PRINCIPAL:

General
Statement

In 78% of South Carolina high schools, the high school principal is the school board's executive officer, responsible to the board for the administration of the elementary and high school grades of the school district. In 22% of the high schools there is a principal responsible to the superintendent of City Schools, and in some instances the administrator of the high school. Generally, however, in a school district which employs a superintendent of city schools and a high school principal, the duties of the principal are clerical and instructional only. Throughout this manual the term, "high school principal," refers to the person or persons responsible to the board, the community, and the State for the administration of any South Carolina high school.

Conception
of Duties

The position of high school principal has passed through varied steps of development. The present conception of the status of the high school principal is that he is teacher, executive of the board, and organizer. He is clerk, personnel officer, director of extra curricular activities, supervisor and curriculum builder. He is the pivotal man, responsible to the board and the public for the effectiveness of the high school, and for leadership in originating studying and putting into effect, with the cooperation of his teaching staff and the public, movements for the improvement of secondary education in his community.

Qualifications

In view of this conception and these duties, the high school principal should be a man possessed of good health, agreeable personality, ethical character, progressive scholarship, successful teaching experience, a sound educational philosophy, and trained in the science of school administration. His leadership should be such that he can gain the cooperation of his teaching staff, his student body, and the public generally.

Balance and
Perspective

When there are so many demands made upon the time of a high school principal, he sometimes loses his balance and perspective. Sometimes he devotes all of his time to duties that are evident, and loses sight of important matters to which he should devote some time and attention. One hundred high school principals were requested to make an esti-

mate of how they should distribute their daily time between the various duties named below. A summary of their answers indicated that they thought they should divide their time between these duties as follows:

Duties	Number Points Devoted to Each*	Distribution of High School Principal's Time
Classroom Supervision	9	
Teachers' Conferences	6	
Pupils' Conferences	4	
Teaching	4	
Correspondence, Records, and Reports	4	
Inspection and Adjustment	3	
Building and Yard	2	

It is not expected that any high school principal apportion his time in exactly this proportion. As it seems necessary for some principals to teach more than one hour a day, the time which such principals devote to supervision, pupils' conferences, and teachers' conferences will have to be reduced. Many of the above duties can be performed after and before school hours. However, if high school administrators will adopt some such standard as the one given above, it will help to keep them out of ruts and off of hobbies.

For all the duties named below the high school principal is responsible. In the larger systems he may delegate some of these duties to supervisors and other assistants, but he cannot escape his obligation to the school board and the community for their being performed promptly and effectively. The smaller the school the more numerous are the duties which the principal must perform himself. Responsible to the board of school trustees, the principal should be given general administrative and supervisory control of the school. Each of the administrative duties named in this outline will be devoted more fully where they are related closely to the content of the manual.

Principal's
Obligation
and Responsi-
bility

PRINCIPAL'S ADMINISTRATIVE DUTIES:

(a) Since the principal is held responsible for the work done by the teachers, he should be given the privilege of

Selection of
Teachers

*One point represents fifteen minutes.

nominating teachers. There should be mutual agreement between the principal and the board members in selecting members of the teaching staff. After the teachers are thus selected, they should be assigned to their duties by the principal.

Supplies

(b) In June of each year, the principal should make an inventory of the supplies on hand, and then place orders for all school supplies, including textbooks needed at the beginning of the following fall session.

Hygiene and Sanitation

(c) The principal is responsible for the hygienic and sanitary condition of the school grounds and building. Such features as heating, ventilation, lighting, schoolhouse and yard cleaning come under this head.

Janitor

(d) The principal should select a healthy, able-bodied janitor, instruct him as to his duties, and see that he performs them.

Repairs and Upkeep

(e) By frequent inspection the principal should discover any need of repairs on the school plant, and should have them made.

Records

(f) The principal should decide upon some adequate system of keeping records and should frequently check the record keeping of the teachers.

Correspondence and Reports

(g) The welfare of any school depends somewhat upon the principal's prompt reply to all correspondence and his filling out accurately and promptly all report blanks submitted to him by the State Department of Education.

Organization

(h) The principal is responsible for his school's organization, which should be made to meet the requirements of the law and the State Board of Education in every detail. The way in which a high school is organized determines to some extent the amount of State aid received.

Textbooks

(i) In an independent district, if books other than State adopted textbooks are used, the principal should be able to defend his selection. Such selection should be determined by a scientific examination of prospective texts and their experimental use in the school.

Schedules

(j) All daily schedules should be worked out by the principal before school opening and be ready to be put into effect on the opening day.

(k) After a thorough canvass of the needs of the community and its financial resources, the high school principal should recommend the number of curriculums to be offered and their content.	Curriculums
(l) The principal should spend at least one whole period a week with each teacher in the capacity of supervisor. Observance throughout a period should be followed by a conference between the principal and the teacher whose work was observed, either at the close of the class period or at the close of the school day.	Supervision of Instruction
(m) The principal is responsible for the improvement of his teaching staff in service. This can be done through reading circles, teachers' meetings, demonstration teaching, etc.	Study Circles
(n) There should be regular monthly meetings of the school board. At this time the principal should report progress and all routine problems should be settled.	Board Meetings
(o) The principal should assume and maintain direct responsibility for all extra curricular activities.	Social Problems
(p) By requiring written excuses for absences and tardiness, the principal should encourage punctuality.	Punctuality
(q) There will be little disorder in a properly organized and properly taught high school. When disorder occurs, however, the principal and teachers should cooperate in bringing about order. While the State law permits corporal punishment, it should not be administered when it can be avoided. In some instances only the superintendent, and not the teachers, should administer such punishment. Some schools follow the policy of administering corporal punishment only in the presence of the principal and at least one teacher.	Keeping Order
(r) The principal is responsible for the effectiveness of chapel exercises.	Chapel
(s) The principal should see that frequent and well organized fire drills are given.	Fire drill
(t) In a nine months' school, the principal should see to it that the school runs one hundred and eighty days excluding holidays, and including examination days.	Length of School Term
(u) Where the high school principal is also responsible for the elementary grades, he should not permit his duties as high school principal to interfere with his obligation for looking	Responsibility for Elementary Grades

out for the interests of the elementary grades. If the interest of either must be sacrificed, it had better be the high school than the elementary school.

Finance

(v) The best way to finance a school system is by use of the budget. Always the principal should make his recommendation for expenditures stay within the income of the district. It is unwise and illegal for a school board to go into debt for operating expenses.

Leadership

(w) The principal should assume leadership in enlisting the cooperation of pupils, teachers, and the community in general in working for the betterment of education conditions in the community.

SUGGESTIVE LIST OF MAGAZINES FOR THE HIGH SCHOOL PRINCIPAL

The high school principal should subscribe for and read as many of the following magazines as possible. Magazines marked "X" are considered indispensable.

GENERAL:

	Price
1. South Carolina Education, X.....	\$1.00
University of South Carolina, Columbia, S. C.	
2. School and Society, X.....	5.00
The Science Press, 11 Liberty St., Utica, N. Y.	
3. Journal of National Education Association.....	2.00
National Education Association, 1201 Sixteenth St., N. W., Washington, D. C.	

DEPARTMENTAL:

A. Administration:

1. School Board Journal, X.....	3.00
Bruce Publishing Company Milwaukee, Wis.	
2. Educational Administration and Supervision....	3.00
Warwick and York, Inc. 10 East Center St., Baltimore, Md.	

B. Secondary Education:

1. The School Review, X..... 2.50
 A Journal of Secondary Education
 The University of Chicago, Chicago, Ill.
2. High School Quarterly..... 1.00
 University of Georgia, Athens, Ga.

SUGGESTIVE LIST OF BOOKS FOR THE HIGH SCHOOL PRINCIPAL

The high school principal should own and read the following books. The ones marked "X" are considered indispensable:

X Healthful Schools—How to Build, Equip, and Maintain Them, by Ayres, Williams, and Wood, published by Houghton-Mifflin Company.

X Health Work in Schools, by Hoag and Terman, published by Houghton-Mifflin Company.

Principles of Secondary Education, by Inglis, published by Houghton-Mifflin Company.

X Junior-Senior High School Administration, by Johnson-Newlon-Pickell, published by Scribner's.

X The Educational Red Book, published by C. F. Williams and Son, Inc., Albany, N. Y.

X Reports of the Commission on the Reorganization of Secondary Education, published by Government Printing Office, Washington.

How to Measure, by Wilson and Hoke, published by Macmillan Company.

Methods of Teaching in High Schools, by Parker, published by Ginn and Company.

X Supervision of Instruction, by Nutt, published by Houghton-Mifflin Company.

Public Education in the United States, by Cubberly, published by Houghton-Mifflin Company.

Psychology of High School Subjects, by Judd, published by Ginn and Company.

Principles of Teaching and Secondary Education, by Foster, published by Scribner's.

The School as a Social Institution, by Robbins, published by Allyn and Bacon.

Social Principles of Education, by Betts, published by Scribner's.

The Socialized Recitation, by Robbins, published by Allyn and Bacon.

TEACHERS:

Qualifica-
tions of
Teachers

A high school teacher should be a person possessed of a good moral character, a healthy body, agreeable personality, and an education equivalent to graduation from a college requiring the completion of a four-year course of study, or one hundred-twenty semester hours in advance of a stand-ard four-year high school course. The last two years of this college training should be devoted to specialization in the subject which the teacher teaches. In addition to her high school and college training, a high school teacher should have a minimum professional training of twelve semester hours in education which includes the pedagogy of the subject which the teacher teaches.

DUTIES TEACHERS SHOULD PERFORM:

Maintain
Order

(a) Maintain order in such manner and to such an extent as to make conditions in room not only conducive to study, but to the development of the initiative, and the moral and social sense of pupils.

Teach

(b) Plan and present work in such manner as to develop in each pupil the knowledge, interests, habits, ideals, and powers whereby he may find his place, and use it for the good of society.

Physical
Condition
of Room

(c) See that light, heat, and ventilation in her room are adjusted from time to time, so as to produce wholesome hy-gienic conditions. She should supervise posture of pupils and see that school furniture is regulated to fit their needs. She should keep her own desk, cabinet, books, and papers neatly and systematically. She and pupils should cooperate with janitor in keeping floors, blackboards, and school prem-ises clear of scraps of paper, trash, dust, and dirt.

(d) Do hall duty as requested.

Hall Duty
Play ground

(e) At recess the teacher should be out-of-doors with pu-pils directing their play.

- | | |
|--|------------------|
| (f) Visit the parents of each of her pupils at least once each school year. | Visit Parents |
| (g) Assist with extra curricular activities such as literary societies, athletics, and the like. | Extra Activities |
| (h) Unless done by a central secretary, keep records, registers, reports daily and accurately. | Keep Records |

PUPILS:

The school plant and organization exist in order that the pupil and teacher may meet under circumstances favorable to realizing the aim and seven objectives of secondary education. Pupils should never lose sight of the fact that the high school should be a cooperative institution, and that the high school will contribute to the pupil's development in proportion to the effort that the pupil makes to develop himself. The pupil who shows by his attitude and conduct an unwillingness to become a good citizen of the high school community should, after a fair trial, be excluded from the high school.

THE SCHOOL COUNCIL:

The school council is made up of the principal, representative high school pupils, and high school teachers. Since one of the objectives of secondary education is citizenship, the citizenship ideals which pupils get from the subject content which they are taught in high school should be made to function daily through the organization of the school council. The best way to learn to be a good citizen is to practice the art of citizenship. School council does not mean self government. The responsibility of principal and teachers to control the activities of the school cannot be safely delegated. Under the direction of principal and teachers, the school council gives pupils an opportunity to participate in the management of some of the affairs of the high school. This develops in the pupils capacity for self-direction. In organizing a school council, the principal and teachers should make their own organization and in such a manner as to respect the personality of their own school. In its beginning the activities of the school council should be limited to only one or two features of the school life such as one assembly program a week, or the establishing of a standard of school cour-	Purpose
	Not Self-government
	Small Beginning

tesy. Dr. Dewey says: "School is not preparation for life; it is life." Adolescent boys and girls want not only to be taught how to live; they want to live. The properly conducted school council provides for wholesome school life.

Need

PRINCIPAL'S SECRETARY:

Economy of

In the larger high schools it requires all of the time of one person to do the routine and clerical work of the school. Since the place of the principal is in the classroom and the life of the community to formulate and direct school movements, it is poor economy to tie him down to clerical and routine duties that can be performed by a person of less training and at a lower salary. Hence, in the largest high schools, a full-time clerk or secretary should be employed; in the larger high schools, a part-time secretary should be employed.

THE JANITOR:

For importance, qualifications and duties of janitor, see Page 16.

SCHOOL FINANCE

General Principles

The fundamental problem of school administration is school finance. The administration of public education cannot be made a money saving process. The field of school finance involves not only the "income and outgo" relation, but also the further relation of children to be educated. It is the function of the school board to provide adequate funds, and to so supervise their expenditure that each dollar will buy a hundred cents' worth of effective educational advantages for the children of their district.

Before the beginning of each fiscal year, a school budget should be prepared by the principal or superintendent under the supervision of the school board and approved by the board.

Budget

The budget should provide for the following items of expense:

1. Office of Superintendent
2. Supervisors' salaries
3. Principal's salary
4. Teachers' salaries

5. Supplies for instruction
6. Rent and insurance
7. Fuel
8. Janitor's supplies and janitor hire
9. Repair of buildings and upkeep of grounds
10. Repairs and replacement of equipment
11. Library expenses
12. Promotion of health
13. Transportation
14. Outlay

The budget should show an itemized conservative estimate of receipts. Sources of school income are:

1. Balance
2. Poll tax
3. Three-mill constitutional tax
4. Dog tax
5. Special tax for current expenses
6. Special tax for bonds
7. State appropriation
8. Other sources

A good budget is one that provides properly for every child and shows no deficit at close of school year.

Good Budget
Defined

When the budget is approved by the board, it should be published in local newspapers or newspaper. At the end of each school year the school board should publish a financial statement which would enable every citizen to trace school funds to their ultimate expenditure.

Publicity

While the law requires a district supporting a high school to levy only a four-mill tax for maintenance, practice shows that 95% of the districts supporting high schools levy a special tax of ten mills or more. Since a study of the school finance of thirty South Carolina districts shows that these districts are spending an average of \$86.00 per year per high school pupil for high school maintenance, and since the total State and Federal aid apportioned to all districts supporting high schools amounts to only 9% of the total cost of the maintenance of the school systems of these districts, it costs a local community annually about \$79.00 per pupil, on the average, to support a high school.

Special
High School
Levies

In addition to this, the district must make provision for its elementary grades. To provide fairly for elementary and high school instruction requires a special levy for current expense locally of at least fifteen mills.

EXTRA CLASSROOM ACTIVITIES

General
Statement

Boys and girls of high school age are most interested in social activities which give expression to their natural desires and which they have had some share in initiating. If this tendency is utilized and directed through extra classroom activities, it will aid greatly in developing the knowledge, interests, ideals, habits, and powers whereby pupils may find and use their places for their own good and the good of society.

Activities
Named

The number and nature of extra classroom activities will be determined by the size of the high school. It would seem practicable for all high schools to make use of such extra classroom activities as the assembly period,* Literary Society, school play, recess team games, and athletics. Other extra-class room activities are publications, school clubs, such as dramatics, etc.; school council, and class plays; etc.

Cooperative
Activities

The above named activities should be planned and administered through the cooperative efforts of the principal, teachers and pupils. The principal of active pupil participation should be dominant. All such activities of pupils, however, should be approved and supervised by teachers. The high school principal should never allow extra class room activities to become influenced or controlled by persons outside of the high school organization: as for instance, the domination of the high school athletics by professionals or "ringers" in the town or city.

LIBRARY

Library

The high school should develop in pupils the reading habit. The library is the laboratory of the History and

*Once a week some class or group of high school pupils may be made responsible for the entertainment and edification of the whole high school assembled in the school auditorium for a full forty or forty-five minute period. The program rendered should always be approved in advance by the principal and directed by one or more teachers.

English departments of the high school. A high school without a library is an educational deformity.

Library
Room

The library room should be a well lighted, well ventilated, neat, and attractive room, centrally located and accessible. A favorable location for the library is adjoining the study hall. If the library is thus located and a glass partition placed between the two rooms, pupils will be accessible to the library during study periods, and the library can be observed by the teacher in charge of the study hall. Even the small high school should have a library, and if in such school there is no separate room provided for library use, books may be kept in one of the class rooms or in the study hall.

Librarian

In the largest high schools there should be a full-time librarian. In the smaller high schools a competent teacher should be responsible for the library, and in the larger high schools, there should be a teacher-librarian, a person giving part-time to teaching and part-time to library service. Any teacher in charge of a high school library should have had at least one summer of training in the administration and use of a high school library.

Number
of Books

A high school library should have in it at least four well selected volumes per high school pupil enrolled and useful reference books, one or more encyclopedias, and one or more unabridged dictionaries.

Periodicals

There should be available in the high school library one or more daily papers, and current magazines.

Floor Space

The library floor space available for use as reading room should accommodate at any one time about ten per cent. of the high school pupils in the building.

Furniture

The library should be furnished with chairs and reading tables large enough to accommodate six pupils at a time.

Library
Bibliography

Chapter 13 of the United States Bulletin on the Reorganization of English in secondary schools contains valuable information upon the administration and use of the high school library. There is a chapter on The High School Library in "Junior-Senior High School Administration," and also a chapter on the "Socializing Influence of the High School Library" in "The Modern High School," both of which are published by Scribner's. United States Bulletin, 1913, No. 35, entitled "A List of Books Suited to a High

School Library," should be of use in selecting books for a high school library. The New England School Library Association has published some very fine book lists for high school libraries. These may be secured thru the secretary Miss Edith K. Coulman, High School, Quincy, Massachusetts.

SUPERVISION OF CLASSROOM INSTRUCTION

On page 27 of this manual the duties of the high school principal or administrator are named. One of the duties named is that of classroom supervision. On page 27 under distribution of principal's time, it is indicated that the high school principal should devote more time to classroom supervision than to any other duty.

While clerical, disciplinary, extra-curricular, inspectorial, community leadership, and other administrative duties are important and must be performed, the duty of working with the classroom teachers to improve the quality of their instruction, in other words, the duty of supervision, is fundamental and therefore cannot be evaded or neglected if the school is to do its most effective work. "The supervisor must carry out eight distinctive pieces of work. He must lay the basis for effective cooperative teaching; select and organize the subject-matter of courses of study; teach for purposes of demonstration and experimentation; direct systematic observation; direct the teaching activities of his teachers; check up the progress made by the pupils; measure the efficiency and progress of his teachers; and measure the efficiency of his own supervising performances. The performance of these various pieces of work demands thoro training pointed specifically to these distinct activities."*

The above outline of supervisory duties is given so that the high school principal will not confuse such duties as "checking records," "giving permissions," "helping to keep order," "administering discipline," "promoting extra classroom activities," and "visiting of classrooms to determine temperature, adjustment of shades, order and schedule adjustments" with the duties of supervision.

The supervisory function of a principal is a cooperative function. To succeed in it there must be complete coopera-

*Page 32, The Supervision of Instruction, By Nutt.

One of many
Duties

Importance

Duties of
Supervisor

Cooperative

tion between supervisor and teaching staff. Supervision must be constructive, not destructive. The supervisor must assume the attitude of a helper. Not only must he assume the helping attitude, he must be able because of training and experience to give help. In addition to being master of the subject matter of his particular subject, the supervisor should be thoroly trained in the fundamental principles of teaching and supervision.

Training

Unless the principal can be sure of this cooperative basis and of his ability to make his supervision really helpful, he wastes his time and dissipates his energy when he undertakes supervision. When, however, he has established a spirit of cooperation between himself and staff, and when he is satisfied that he is in possession of the fundamental principles of teaching and supervision he should begin his program of supervision.

Poor
Supervision
Wastes Time

The principal and teachers together under leadership of the principal may begin their supervisory program by working out objectives for each course by determining general underlying principles of method and procedure for each course.

Objectives
and Methods

Second, arrange for teachers' meetings for study and discussion of professional books, magazines, journals, and fundamental problems of education.

Teachers'
Meetings

Third, observe teachers' classroom instruction throughout whole class period or periods, and follow with constructive criticism that may be usable, definite, applicable, and helpful.

Class Room
Observation

Fourth, use standard tests to determine progress of pupils.

Standard
Tests

Fifth, use score cards for rating teachers. Let principal and teacher discuss and compare rating made by principal and made by teacher herself.

Score Cards

Sixth, let both principal and teacher teach demonstration lessons from time to time. Demonstration lessons should be followed by free discussion.

Demonstra-
tion Lessons

Seventh, lessons plans, outlines, and standards may be worked out thru cooperative efforts of principal and teachers.

Lesson Plans

The principal who devotes most of his time to teaching will not be able to devote as much time to classroom observation as he should do. However, he will be able to do most of the things suggested more or less thoroly if he is really

The teaching
Principal
and
Supervision

interested in improving the quality of instruction in the school. He may concentrate upon one activity at a time for one or two months. Every principal should own and read Nutt's *Supervision of Instruction*, published by Houghton-Mifflin.

DAILY SESSION AND SCHEDULE OF CLASSES

Double and
Single Daily
Sessions

The schedule of classes in a high school is determined by the length of the daily school session, what time is given for recess, and whether or not a luncheon hour is allowed. When a luncheon hour is allowed, the school is said to follow the double daily session plan. When no luncheon hour is allowed the school is said to follow the single daily session plan. Thirty-two per cent. of the high schools of the State follow the double daily session plan; sixty-eight per cent. follow the single session plan. High schools which follow the single session plan usually open at 9:00 o'clock, run until two, have two fifteen-minute recess periods, and devote six periods to recitations and study. High schools which follow the double daily session plan usually open at 8:45, run until 3:45, allow ten minutes for opening exercises, give a fifteen-minute recess in the afternoon, give an hour for luncheon, devote eight forty-minute periods to recitations and study and allow two and a half minutes between periods for pupils to pass from one room to another.

Types of
Periods

There are three kinds or types of periods:

(a) The forty- or forty-five-minute period, all of which is devoted to recitation, is the most common.

(b) The sixty-minute period, all of which is usually devoted to recitation, but fifteen or twenty minutes of which is sometimes devoted to study, is unusual.

(c) The eighty- or ninety-minute period, sometimes called the study-recitation period, the first half of which is devoted to study of the lesson which is recited in the second half of the period is very unusual. The study-recitation period may be converted into a laboratory period which meets requirements of credit unit rating. The ninety-minute periods also meet requirements of Smith-Hughes law.

If the high school principal knows how to organize the high school curriculum and courses and activities, and to

make out his schedule of classes in such a way as to use time of pupils to best advantage, there is great advantage in the double daily session over the single daily session, provided the teachers and community cooperate in putting this plan into effect. The double session provides more time for supervised study, laboratory and shop work, library work, applied arts, and extra-class room activities.

The schedule of classes should be made out and posted before school opens, lessons assigned on the first day, and regular recitations begun on the second day after school opens. Recitations should close promptly at the end of the period, which should be signaled by bells or bell. Pupils rather than teachers should change rooms if a change is to be made. There are two reasons for this. Teachers should accumulate in their classrooms illustrative teaching material, which characterizes their subjects and which cannot be moved from room to room. The two minutes of walking and change relaxes pupils, and is physically beneficial to them.

Administer-
ing Schedules

Probably the three-teacher high school which is attempting to offer Smith-Hughes Agriculture offers as many problems in making a schedule of classes as any other type of high school. To show that by combining some classes and alternating some subjects by years, it is possible to make a schedule of classes for such school, a specimen schedule has been worked out as follows:

Teachers	Opening	1st Period	2nd Period	3rd Period	4th Period	Lunch	5th Period	6th Period	7th Period
	8:50-9:00	9:00-9:45	9:45-10:30	10:30-11:15	11:15-12:00	12:00-1:00	1:00-1:45	1:45-2:30	2:30-3:15
Mr. A	Opening	8th Agriculture	8th & 9th Gen. Science, Boys			Lunch	9th Agriculture		Prin.'s Va- cant Period
Miss B	Opening	10th & 11th History	9th Math	8th & 9th Biology Girls		Lunch	10th French	Study Period	8th Math.
Miss C	Opening	9th Eng.	11th French	10th Math.	11th Geog.	Lunch	8th Eng.	10th Eng.	11th Eng.

This schedule of classes provides for a four-year curriculum which offers the following units: English, 4; Mathematics, 3; Science, 3; History, 2; Agriculture, 2; French, 2. This schedule of classes provides for a combination of 10th and 11th History classes and 8th and 9th sciences according to sex. Next school year Miss B will teach general science to 8th and 9th girls, and Mr. A will teach biology to 8th and 9th boys. When the community is able to add a Home Economics teacher, she can teach Home Economics to girls at the same time Agriculture is being taught to boys.

LIST OF STATE ADOPTED HIGH SCHOOL TEXT-
BOOKS FOR THE PERIOD, JULY 1, 1922, TO
JUNE 30, 1927

These texts are classified according to subjects.

ENGLISH:

Ward's Sentence and Theme

Punctuation Leaves for same

Teacher's Manual for same

Theme Building—Ward

Lewis & Hosic's Practical English for High Schools

Miller's English Literature

Pace's American Literature with Readings

Setzler's Introduction to Advanced English Syntax

Dalgleish's Grammatical Analysis

Woolley's Handbook of English Composition

Riverside Literature Series:

The Sketch Book

Lady of the Lake

Julius Cæsar

Treasure Island

Robinson Crusoe

Enoch Arden

Macauley's Lays of Ancient Rome

David Copperfield

Southern Poets

Ivanhoe

Kenilworth

As You Like It

Pied Piper

Tale of Two Cities

Macbeth

Silas Marner

Idylls of the King

Vision of Sir Launfal

Henry Esmond

Macauley's Life of Johnson

Literature, not Riverside Series

Short Stories for English Courses

Queed

The Gentleman from Indiana

HISTORY OR CIVICS:

Basal:

West's Ancient World
 West's Modern World (With Supplement)
 West's War and the New Age (Free)
 Stevenson's American History
 Wallace's Civil Government of United States
 (Combined and revised)

Optional:

West's Short History of Early Peoples
 Hughes' Community Civics
 Meyers, Mediaeval and Modern History (Revised)
 Magruder's American Government

MATHEMATICS:

Basal:

Stone-Millis High School Arithmetic
 Wells' Algebra for Secondary Schools, (Complete)
 Wells' Algebra for Secondary Schools, Part I
 Wells' Algebra for Secondary Schools, Part II
 Wells' Plane Geometry

Optional:

Sykes-Comstock Beginner's Algebra
 Sykes-Comstock Plane Geometry
 Sykes-Comstock Solid Geometry

SCIENCE:

Basal:

Caldwell & Eikenberry's General Science (Revised)
 and Manual
 Smallwood, Revelly & Bailey's Practical Biology
 (Revised) and Manual
 Cook's Practical Chemistry for High Schools
 Black & Davis—Practical Physics (Revised)

Optional:

Black & Conant's Chemistry
 Black—Laboratory Experiments in Chemistry, to
 accompany Black & Conant
 Hunter's Civic Science in the Home

Hunter's Civic Science in the Community
 Weed's Chemistry in the Home
 Chamberlain's Physical, Economic, Regional
 Geography (Recommended)

LATIN:

Smith's Elemental Latin
 Bennett's Latin Grammar
 Bennett's New Latin Composition, Part I
 Bennett's Cæsar
 Bennett's Cicero
 Bennett's Virgil

FRENCH:

Basal Grammar:

Chardenal's Complete Course

Optional Grammar:

Gourio's La Classe en Francais

Readers:

Guerber's Contes et Legendes, Books One and Two

Talbot's La France Nouvelle

L'Abbe Constantin, by Halevy

Labiche & Martin's Le Voyage de Monsieur Perri-
 chon.

SPANISH:

Hill & Ford's Spanish Grammar (New Edition)

Elementary Spanish—American Reader

GERMAN:

Joynes' Wesselhoeft's Grammar

Joynes' German Reader

COMMERCIAL:

Bexell & Nichols' Principles of Bookkeeping and
 Farm Accounts (With Blanks)

Rittenhouse's Modern Illustrative Bookkeeping
 (With Blanks, Forms, and Vouchers)

Stenography—Gregg (Recommended)

HOME ECONOMICS:

Greer's School and Home Cooking

AGRICULTURE:

Productive Farm Crops, Montgomery (Recommended)

Animal Husbandry for Schools, Harper (Recommended)

Horticulture for High Schools, Davis (Recommended)

CURRICULUM SUGGESTIONS

PLANS OF ADMINISTERING PUPILS' CHOICES:

Free Elective
Plan

School men who have followed and studied the free elective plan of administering pupils' choices have discovered that this plan provides faulty organization. Pupils too often take only one year in subjects that are not required. There is a tendency among pupils to choose easy subjects. In short, there is too much diversity and not enough sequence.

Group Plan

The group of high school principals who have experimented with the "group system" of administering choices of pupils say that this plan affords too much sequence and not enough diversity. It is difficult to administer the group plan on account of arranging schedules for the pupils who fail in one subject. It causes pupils to overspecialize. These men believe that the high school is not the place for specialization.

A majority of those who have made a thorough study of the problem of pupils' choices of subject courses say that the "curriculum plan" is the best plan of administering pupils' choices, because it provides diversity and sequence in proper proportion, makes constant requirements easier to administer, and makes sure that the needs of differentiated groups will be met.

Curriculum
Plan

An analysis of the high school population of various communities by those who have done advanced curriculum thinking shows that in almost every community there are in the high schools at least three considerable groups, the needs of whom should be met by the program of studies. These are the group that will enter college, the group that will enter a vocation, and the group which does not know that

it will enter college, and at the same time does not desire to choose and train for a vocation while in high school. The needs of these three groups can be met by organizing a college preparatory curriculum, vocational curriculums, and a general curriculum.

Kinds of
Curriculums

One can arrive at what subjects should be required in the college preparatory curriculum of South Carolina high schools through a study of college entrance requirements of South Carolina colleges.

The uniform published catalog requirements of a majority of colleges are as follows:

College En-
trance Re-
quirements

English	3 units
Latin	3 units
Modern Languages	2 units
History	2 units
Mathematics	2½ and 3 units
Science	1 and 2 units

It would not seem practicable and wise in planning a high school college preparatory curriculum to cater to the whims of one or two colleges in their extreme (as compared with the requirements of other colleges) requirements in two or three subjects. For this reason the following college preparatory curriculum is recommended.

8th Grade	9th Grade	10th Grade	11th Grade
English	English	English	English
Algebra	Algebra thru	Modern	Plane
Gen. Science	Progressions	History	Geometry
	Biology	Latin	U. S. History
Latin	Latin	French	French

College
Preparatory
Curriculum

A pupil who has satisfactorily completed this curriculum will be reasonably independent. Beginning in the fall of 1923, such pupil may enter any college in the State as a candidate for A. B. degree with two exceptions. If she wants to go to Converse or Chicora, she will have to make up one unit in Latin before entering.

The following general curriculum is suggested :

8th Grade	9th Grade	10th Grade	11th Grade
English Arithmetic (1st semester) Algebra (2nd semester) Gen. Science Com'ty Civics (1st semester) Anc. History (Shorter) (2nd semester)	English Algebra thru quadratics Biology Geography	English Modern History Chemistry X Plane Geometry X French X German X Spanish X	English U. S. History & Gov't. Physics* Algebra* French* German* Spanish*

Four-year
General
Curriculum

Elect two marked "X."

Elect two marked "*."

A pupil taking this curriculum and electing mathematics in the tenth and eleventh grades may enter the freshman class of any of the State institutions, Clemson, Citadel, University, or Winthrop.

The following vocational* curriculum is suggested :

8th Grade	9th Grade	10th Grade	11th Grade
English Arithmetic (1st semester) Algebra (2nd semester) Gen. Science Vocational Subject	English Algebra thru quadratics Biology Vocational Subject	English Modern History <hr/> Select two Chemistry Plane Geometry Modern Language Geography Vocational Subject	English U. S. History & Gov't. <hr/> Select two Physics Algebra Modern Language Vocational Subject

Four-year
Vocational
Curriculum

Constants

The constants in these three suggestive four-year high school curriculums are:

English	4 units	History	2 units
Mathematics	2 units	Science	2 units

The attention of high school principals is again called to the group requirements of pupils who will receive State high school diplomas in the spring of 1924, and thereafter. These are:

English	4 units
One major	3 units
Two minors	2 units each

The remaining four units may be distributed as the pupil desires.

*Vocational subjects are: Agriculture, Home Economics, Trade Training, Teacher Training, Commercial Training, etc. Either two or four years may be devoted to vocational subjects, depending upon teaching staff and enrollment.

THREE-YEAR CURRICULUMS

In the three-year high schools where it is thought desirable not to require Latin of all pupils, a general curriculum with a choice between Latin and Science may be offered. If there is an enrollment of not more than forty pupils in a three-year high school, it is possible for two high school teachers to offer the general curriculum with a choice between the Latin and Science. However, this arrangement requires seven teaching periods of one and six (seven if double periods are devoted to Science) of the other high school teacher. This is probably more work than the average high school teacher can make preparation for daily. To offer the general and vocational curriculums in a three-year high school, three full-time teachers will be needed if only one vocational subject is offered.

Suggestive three-year curriculums follow :

GENERAL CURRICULUM WITH CHOICE BETWEEN
LATIN AND SCIENCE:

8th Grade	9th Grade	10th Grade	Three-year General Curriculums
English Com'ty Civics (1st semester) Anc. History 2nd semester) Arithmetic 1st semester Algebra (2nd semester) Latin, or Civic Science in Home	English Modern History Algebra Latin, or Civic Science in the Community	English U. S. History & Gov't. Plane Geometry Latin or Geography	

VOCATIONAL CURRICULUM:

8th Grade	9th Grade	10th Grade	Three-year Vocational Curriculums
English Arithmetic (1st semester) Algebra (2nd semester) Gen. Science or Civic Science in the Home Agriculture or Home Economics or both	English Modern History Algebra Agriculture or Home Economics or both	English U. S. History & Gov't. Plane Geometry Biology or Geography	

Only Four
Subjects
Per Pupil

In a three-year or four-year high school, pupils should be permitted to carry only four major subjects at a time. In any high school grade, the 15% of the pupils who made the highest scholarship marks in their preceding year's work may be permitted to carry five major subjects, provided they desire to do this and provided they maintain a general average of about 90% on the five subjects being carried.

How Deter-
mine
Curriculums

The scientific method of approaching the problem of developing curriculums in a high school is through a survey of the abilities and inclinations of pupils, needs of the community in which the high school is located, the number of pupils to be served by the high school, and the financial ability and inclination of the people of the district to provide building and equipment accommodations and teaching staff.

Provide for
Majority

When a curriculum is added an expense is added. When a community is willing to meet the expense of providing all of the curriculums indicated by the needs of all of the pupils who constitute the high school population of the district, it is usually where there is a large high school enrollment and a large property assessment. When, however, the taxpayers are unwilling, on account of low valuation or small enrollment, to meet the expense of offering comprehensive curriculums, the board and principal must determine which curriculums will be omitted and which will be offered. Under these conditions, the determining factor should be the needs of the greatest number of children. For example, if only one curriculum may be offered and the needs of, say fifty-five pupils, call for one curriculum, and the needs of forty-five pupils call for another, the curriculum which fits the needs of the fifty-five should be offered.

Number of
Teachers and
Curriculums

It should be remembered that additional curriculums call for additional teachers. A four-year high school which has no grade with an enrollment of over thirty-five pupils may offer the college preparatory and general curriculums with not less than four full-time high school teachers. In a high school where none of the grades are large enough to require division into sections, each vocational curriculum offered, in addition to the college preparatory and general curriculums, will require the full time of one vocational high school teacher.

SUGGESTIONS AS TO COURSES

The following pages contain suggestions as to the quantity, kind or quality, and organization of the subject matter which constitutes credit unit and one-half credit unit courses in South Carolina high schools.

General
Statement

The quality of high school instruction should be of the highest order. Mere lesson hearing may be done by any teacher. Real instruction can be given only by the teacher who knows her subject matter, who is thoroughly trained in the principles of teaching, who has had properly directed experience, and who is willing to devote her best efforts to teaching. High school instruction should be made to realize the aims of the socialized recitation. It should provide in their proper proportions such types of instruction as the drill lesson economically executed; the lesson to add new knowledge through oral and book instruction, through illustration and demonstration, and especially through the stimulation of thought; and, finally, it should provide lessons and standard tests to test the knowledge of pupils. Since the question is such an important factor in instruction, all questions should be carefully thought out so as to be most effective. This calls for daily lesson plans which set up aims and objectives for the teaching of each lesson and which provide questions and methods for realizing these aims and objectives. It is doubtful if a teacher is justified in making an assignment unless she can measure it as a means of realizing the aim and one or more of the objectives named on page one of this manual. Finally, any scheme of instruction which fails to provide for supervised study is of doubtful value.

Instruction

In this manual there is not space to give to an adequate treatment of method of instruction in each course, but following each group of related courses there are given the names of books and magazines which it is believed will be of help to teachers of those courses. Here are given some general references with which all high school teachers should be familiar. Those marked "X" are considered indispensable.

General Ref-
erences for
Teachers

An introduction to High School Teaching, by Colvin,
published by Macmillan Book Company. X
The Socialized Recitation, by Robbins, published by
Allyn and Bacon. X
Psychology of High School Subjects, by Judd, pub-
lished by Ginn and Company. X
Methods of Teaching in High School, by Parker, pub-
lished by Ginn and Company.
The School as a Social Institution, by Robbins, pub-
lished by Allyn and Bacon.
Principles of Teaching in Secondary Education, by
Foster, published by Scribner's.
Bulletin, 1918, No. 35, Superintendent of Public Docu-
ments. X

ADMINISTRATION OF INSTRUCTION

Daily Teach-
ing Periods

The number of daily teaching periods which a teacher is required to fill will of course affect the quality of instruction which she gives. A majority of the teachers of the State devote six periods a day to instruction. When a community is able to afford a large enough teaching staff to require only five recitations per day of each high school teacher, the quality of instruction will probably be improved.

Pupils per
Teacher

It is generally agreed that about twenty-five pupils in a subject class is the number that can be instructed most effectively by a teacher. However, it is customary to permit one teacher to instruct a maximum of thirty-five pupils in a subject class in some of the best high schools. When a teacher attempts to instruct more than thirty-five pupils in a subject class, she does herself and her pupils an injustice. Some rating agencies do not accredit high schools which permit English teachers to be responsible for the instruction of more than one hundred pupils. Generally, it is recommended that an English teacher be not responsible for the instruction of more than eighty pupils, because teachers of this subject should read widely and should correct many themes from each pupil taught.

Subject
Rooms

The atmosphere or coloring of a room should characterize the subject taught in it. Illustrative teaching materials in the form of books, pictures, charts, maps, post cards, etc.,

should be collected by every teacher and kept available in her classroom. Much of such material can be secured free in the form of advertising matter from business institutions. Much can be purchased from school supply houses. In order that teachers may make the environment of their classrooms conducive to interest in their respective subjects, pupils instead of teachers should change from room to room. This change also gives the pupils an opportunity to relax and rest for two or three minutes between periods.

Teachers of different subjects should practice cooperation in bringing about common desirable ends. For example, the teacher of every subject should cooperate with the English teacher in securing the best possible oral English from all pupils.

Cooperation
between Teach-
ers

Practice seems to indicate division of the school year into two semesters rather than three terms. There are a number of advantages in this practice. Division of the year into two semesters makes half unit courses easier to administer. It also lessens the number of general examinations from three to two.

Two
Semesters

Much time can be wasted in connection with examinations. Three times a year some schools devote one week to review for examinations and one week to the examination itself. Some schools which divide the school year into two semesters devote three days twice a year to examinations which are not preceded by reviews. Principals of these schools say that the time for systematic review is from day to day throughout the school year. Another group of schools follow the plan of giving a monthly written lesson on each subject. These written lessons are reviews of the preceding month's work, cover salient points of instruction, are given one each week, and the pupils do not know on which day these quizzes will come. These written lessons usually count as one-third in making up the monthly mark. Some high schools require no other examinations than these; others excuse pupils, who under this plan have made a general average of 85% or more for the half year, from the semester examinations to which two and a half days are devoted at the end of each semester. Of these three plans of adminis-

Examinations

tering examinations in practice the last one seems to produce the best results, and the first one the most unsatisfactory results. Would it be a good plan to give a standard test to all pupils in each subject instead of the regular examination at the end of each semester? Some schools follow this plan. An important feature of any test or examination is to return to each pupil his paper with mistakes indicated in writing.

RATINGS:

Rating in
Credit Units

To enable any high school principal to rate in credit units the work done in his school, the following facts are given:

What constitutes a credit unit in each subject is determined by the National Conference Committee on Standards of colleges and secondary schools.

Following is a statement which will enable any South Carolina high school principal to rate the work done in his own school. Rating of work done in a high school in credit units is based upon three things.

1. Quality of work (determined by inspection).
2. Time devoted to subject (determined by reports).
3. Number of pages covered (determined by reports).

The quality of work done is to be thorough.

The amount of time devoted to earning credit units in various subjects may be stated as follows:

A four-year secondary school curriculum should be regarded as representing not more than sixteen units of work.

A unit is defined as a quarter of a year's work in high school.

Four major subjects make up a full year's work for all except pupils of exceptionally strong native ability.

Recitation periods of not less than forty minutes a day, five days a week, for thirty-six weeks are required to earn a credit unit in any subject. To earn a credit unit in a laboratory science, two weekly eighty-minute periods devoted to laboratory work in an adequately equipped laboratory are required in addition to three weekly forty-minute recitation periods devoted to the same science. Five sixty-minute periods a week devoted to instruction in a science satisfy rating requirements for a unit. To earn a credit unit in

agriculture, double periods and approved equipment are required. One-half unit may be given for an approved agricultural project. To earn a credit unit in home economics, double periods and approved equipment are required. To earn a credit unit in manual training or arts, double periods and approved equipment are required. To earn credit unit in stenography, typewriting is required.

The number of pages or quantity of work required for each credit unit is as follows:

ENGLISH:

Grammar (high school text complete)	1	unit
Composition and Literature . .	3	units*

HISTORY:

Ancient (full course)	1	unit
Ancient (short course)	1/2	unit
Community Civics (half year) .	1/2	unit
Modern History	1	unit
American History and Govern- ment or Civics	1	unit

MATHEMATICS:

Arithmetic	1/2	unit
Algebra to quadratics	1	unit
Algebra through quadratics . .	1 1/2	units
Algebra through progressions and binomial theorem	2	units
Plane Geometry	1	unit
Solid Geometry	1/2	unit

LATIN:

Beginners' or First Year	1	unit
Cæsar, 4 books	1	unit
Cicero, 6 orations	1	unit
Virgil, 6 books	1	unit

LABORATORY SCIENCES:

General Science	1	unit
Biology	1	unit
Chemistry	1	unit
Physics	1	unit

*Composition two or three times a week for four years and Literature two or three times a week for four years gives four credit units, provided a minimum of four prescribed classics a year is completed and three adopted texts in composition and grammar are completed.

Physiology (High School) . . .	1/2 unit
Physical or High School Geography	1 unit

MODERN LANGUAGE:†

French	1 to 2 units
Spanish	1 to 2 units
German	1 to 2 units

VOCATIONAL SUBJECTS:

Agriculture	1 to 4 units
Bookkeeping	1 unit
Home Economics	1 to 4 units
Manual Training	1 to 2 units
Stenography and Typewriting .	1 to 3 units

ENGLISH:

With the probable exception of the Science teacher, the English teacher needs more special training for her work than other high school teachers. No English teacher can do satisfactory work if she is responsible for the instruction of more than one hundred pupils in English. The best theory and practice in high school English work throughout the whole country is given in the Reorganization of English in Secondary Schools, a bulletin published by the United States Department of the Interior. Extracts* from the Bulletin are adapted to conditions in South Carolina and are given in the following pages, which are devoted to a discussion of English Composition and Literature:

I. In general, the immediate aim of high school English is two-fold:

(a) To give the pupils command of the art of communication in speech and in writing.

(b) To teach them to read thoughtfully and with appreciation, to form in them a taste for good reading, and to teach them how to find books that are worth while.

*With changes in arrangement, with some omissions and comments, about twenty of the following pages are a reprint from Reorganization of English in Secondary Schools.

†Credit depends upon the time devoted to the subject and the quantity of work accomplished.

These two aims are fundamental; they must be kept in mind in planning the whole course and applied in the teaching of every year.

General
Aims of
English
Course

II. Expression in speech includes:

(a) Ability to answer clearly, briefly, and exactly a question on which one has the necessary information.

(b) Ability to collect and organize material for oral discourse on subjects of common interest.

(c) Ability to present with dignity and effectiveness to a class, club, or other group material already organized.

(d) Ability to join in an informal discussion, contributing one's share of information or opinion, without wandering from the point and without discourtesy to others.

(e) For those who have, or hope to develop, qualities of leadership ability, after suitable preparation and practice, to address an audience or conduct a public meeting with proper dignity and formality, but without stiffness or embarrassment.

(f) Ability to read aloud in such a way as to convey to the hearers the writer's thought and spirit and to interest them in the matter presented.

Note: All expression in speech demands distinct and natural articulation, correct pronunciation, the exercise of a sense for correct and idiomatic speech, and the use of an agreeable and well-managed voice. The speaker should be animated by a sincere desire to stir up some interest, idea, or feeling in his hearers.

III. Expression in writing includes:

(a) Ability to write a courteous letter according to the forms in general use and of the degree of formality or informality appropriate to the occasion.

English
General
Aims

(b) Ability to compose on the first draft a clear and readable paragraph, or series of paragraphs, on familiar subject matter, with due observance of unity and order and with some specific detail.

(c) Ability to analyze and present in outline form the gist of a lecture or piece of literature and to write an expansion of such an outline.

(d) Ability, with due time for study and preparation, to plan and work out a clear, well-ordered, and interesting report of some length upon one's special interests—literary, scientific, commercial, or what not.

(e) For those who have literary tastes or ambitions, ability to write a short story, or other bit of imaginative composition, with some vigor and personality of style and in proper form to be submitted for publication, and to arrange suitable stories in form for dramatic presentation.

Note: All expression in writing demands correctness as to formal details, namely, a legible and firm handwriting, correct spelling, correctness in grammar and idiom, and observance of the ordinary rules for capitals and marks of punctuation; the writer should make an effort to gain an enlarged vocabulary, a concise and vigorous style, and firmness and flexibility in constructing sentences and paragraphs.

IV. Knowledge of books and power to read them thoughtfully and with appreciation includes:

(a) Ability to find pleasure in reading books by the better authors, both standard and contemporary, with an increasing knowledge of such books and increasing ability to distinguish what is really good from what is trivial and weak.

(b) Knowledge of a few of the greatest authors, their lives, their chief works, and the reasons for their importance in their own age and in ours.

(c) Understanding of the leading features in structure and style of the main literary types, such as novels, dramas, essays, lyric poems.

(d) Skill in the following three kinds of reading and knowledge of when to use each.

(1) Cursory reading, to cover a great deal of ground, getting quickly at essentials.

(2) Careful reading, to master the books, with exact understanding of its meaning and implications.

(3) Consultation, to trace quickly and accurately a particular fact by means of indexes, guides, and reference books.

(e) The habit of weighing, line by line, passages of especial significance, while reading other parts of the book but once.

(f) The power to enter imaginatively into the thought of an author, interpreting his meaning in the light of one's own experience, and to show, perhaps by selecting passages and reading them aloud, that the book is a source of intellectual enjoyment.

Note: All book work should be done with a clear understanding on the student's part as to what method of reading he is to use and which of the purposes mentioned above is the immediate one. To form a taste for good reading it is desirable that a considerable part of the pupil's outside reading be under direction. To this end, lists of recommended books should be provided for each grade or term. These lists should be of considerable length and variety to suit individual tastes and degrees of maturity.

V. The kinds of skill enumerated above are taught for three fundamental reasons:

(a) Cultural. To open /to the pupil new and higher forms of pleasure.

(b) Vocational. To fit the student for the highest success in his chosen calling.

(c) Social and Ethical. To present to the student noble ideals, aid in the formation of his character and make him more efficient and actively interested in his relations with and service to others in the community and in the Nation.

Note: These fundamental aims should be implicit in the teacher's attitude and in the spirit of the class work, but should not be explicitly set forth as should the immediate aim of each class exercise.

About as much time should be devoted to composition as to literature in high school courses. For the sake of clearness composition is treated separately from literature.

General
Statement

COMPOSITION:

1. Training in composition is of equal importance with the study of literature and should have an equal allowance of time. Composition work should find place in every year of the school course.

Point of
View

2. Subjects for compositions should be drawn chiefly from the pupil's life and experience. To base theme work

mainly upon the literature studied leads pupils to think of composition as a purely academic exercise, bearing little relation to life.

3. Oral work should be conducted in intimate relation with written work, and ordinarily the best results will follow when both are taught by the same teacher.

4. Theory and practice should go hand in hand. The principles of grammar and rhetoric should be taught at the same time and to the extent that they are aids to expression.

5. If examinations are given, they should be so framed as to be a test of power rather than of mere memory.

The general aims of oral and written composition have been set forth above and need not be repeated. In the eighth and ninth grades appears the first opportunity for systematizing such knowledge of the principles of expression as will help the pupil consciously to increase his ability. While the practical value of grammar and rhetoric is much less than was formerly supposed, it does not follow that they should be entirely ignored. The essential parts should be selected upon a basis of tested experience and should be taught in connection with expression in situations as real as may be.

The topics in grammar and rhetoric suggested for the several grades have been chosen in the light of experience and investigation and not because of mere custom or the desire for logical completeness. The study of these topics will be most fruitful if they are regarded as standing for specific habits to be formed; for results to be tested ultimately as practice rather than as theory. It is not supposed that precisely these topics in precisely this order will be handled everywhere, nor that the emphasis upon each of them will be everywhere the same. Definite progress in the several abilities represented should, however, be planned for in every school.

Chief among the abilities to be cultivated may be enumerated the following:

1. Accuracy of observation and vividness of imagination.
2. Clear and logical thinking.
3. A sense for order and completeness.

4. Adaptation of subject matter to a particular audience.
5. The sentence sense.
6. The accurate use of an adequate vocabulary.
7. Observance of standard usage in matters of external form.

The chief problem in elementary composition is to direct pupils in the choice of subjects of real value and interest and the defining toward each of a particular point of view. This is peculiarly difficult because of the wide range of individual differences in the pupils of the high school. For this reason suggestions as to possible themes have been made somewhat liberally. Teachers should take ample time in assigning topics and in stimulating each pupil to think his topic over carefully and perhaps make notes upon it.

The reaction against English grammar arose from the knowledge that the formal work in the subject that was being done was of small practical value. A further influence resulted from investigations tending to show that grammar provides little mental discipline of a general character. The movement in favor of simplifying the school course and concentrating on essentials did the rest. There is need at the present time of careful discrimination, lest the pendulum be allowed to swing too far.

A sane attitude towards the teaching of grammar would seem to be to find out what parts and aspects of the subject have actual value to children in enabling them to improve their speaking, writing, and reading, to teach these parts according to modern scientific methods, and to ignore any and all portions of the conventional school grammar that fall outside these categories. In general, the grammar worth teaching is the grammar of use—function in the sentence—and the grammar to be passed over is the grammar of classification—pigeonholing by definition. The distinction is similar to the contrast of modern biology with the earlier science of families, species, etc. Language, it is well known, is learned mainly by imitation, largely unconscious, and children constantly use in their speech hundreds of expressions, many of them highly idiomatic, which only the linguistic scholar, familiar with the history of the language,

can explain. Children should be set to examining only those grammatical forms and constructions whose use they can plainly see, and they should pursue such examination with the conscious purpose of learning how to make better sentences. Any other aim is mere pedantry. If it be contended that English grammar should be taught for the sake of the study of foreign language, the answer is that the policy just defined will provide all the foundation that foreign language teachers have a right to demand and much more than they will actually get through highly formal and technical studies. The topics in grammar included in this report have been carefully sifted and will be found to accord with recent investigations.

Punctuation

Punctuation, so far as it obeys the rules of grammar, should be taught as a part of the study of the grammatical structure of the sentence. The outline of topics in grammar provides automatically for certain topics in punctuation. Matters of punctuation that are purely or primarily rhetorical should be sparingly touched upon in the eighth and ninth grades for the reason that the pupils are not yet capable of fine distinctions and may easily form the habit of over-punctuating, which is worse than not punctuating at all. Let the pupils realize that marks of punctuation are intended to help the reader's eyes to prevent his running expressions together that should be noticed separately, and you have laid the foundation for an intelligent use of them. The written work of the pupils will provide the matter for practice.

Spelling

Regular work in spelling is necessary in the high school. Drill should be centered upon the words that investigation shows are frequently misspelled by the pupils of these years. The lists should be made up of the class list, gathered by the teacher from the written work, and the grade list, suggested by the work of Ayres and others. Classes in the commercial group will require a special and more extensive drill than other classes because of the test to which they are likely soon to be put. Subject spelling should be carried on in history and other classes so as to prevent the misspelling of proper nouns and technical terms. In addition to all this each pupil should keep in a note book lists of

the words with which he had special difficulty and he should be required to master them.

Much of the recitation in spelling should be devoted to presenting the new words. Not more than three or four distinctly new and different words should be taken up in a single class period. These should be spoken, written, divided into syllables, used in context, and compared with similar and dissimilar words as to form, meaning, and use. Special attention should be called to the part of each word which is likely to be misspelled. The word should be reviewed several times at lengthening intervals—one day, two days, etc. By dint of such treatment pupils may be taught to spell correctly all the words they wish to use and should be required to do it. The study of word structure and derivation, valuable in other ways, will support the work in spelling and should be systematically carried on.

GRADE VIII:

1. To give broader interests and better knowledge of environment.

Composition
Aims, 8th
Grade

2. To increase the pupil's powers of observation, organization, and expression.

3. To further develop the sentence sense.

4. To enlarge the vocabulary.

5. To teach the conventional form of the business letter and of the social letter.

6. To eliminate errors in the spelling of common words.

7. To give a knowledge of certain principles of grammar.

8. To secure greater flexibility and variety of sentence structure.

9. To teach the general principles of paragraphing.

Desirable high school composition material is:

1. Themes, based largely upon personal experience and observation.

(a) Stories of vacations, recreations, and outings. In these, set before the pupils the aim to interest their classmates. When the themes are read aloud, ask if any uninteresting and unnecessary details are included. This will curb the common practice of beginning with: "Got up and ate my breakfast," etc.

(b) Simple work in explanation of local and civic matters. This may take the form of written answers to questions such as, How are our streets repaired? Who fixes our tax rate, and for what are the proceeds spent? Of what use are our parks, and who has charge of them? How are policemen selected and appointed?

(c) Descriptive themes dealing with imaginary journeys. Each pupil plans a trip to a foreign country. With an atlas he makes out his itinerary. In books of travel or such volumes as the Stoddard lectures he reads of the principal cities and what is to be seen, and week by week writes successive chapters of his journey, illustrating his work with pictures clipped from railway and steamship folders or old magazines.

(d) Themes on characters, in life or in books, whom the pupil admires. This leads naturally to themes on what pupils would like to do or to be; or this may be brought in as the concluding paragraph of an autobiography.

(e) Descriptions of interesting work in other classes, especially in the departments of manual training, household arts, and science.

(f) Frequent practice in letter writing. The form of the business letter should be taught. In teaching the social letter it has been found an incentive to have the pupils correspond with those of a similar grade in another city. The first letter is planned as a class exercise, the form, the stationery, the superscription all being carefully considered. Later letters may be written with little supervision. The desire of the pupil to do well will be an incentive for careful work, and the practice in composition may be quite as valuable as if done under the teacher's eye. Pupils receiving particularly good letters may give them to the teacher to read to the class, and report the teacher's comment to the writer.

(g) Reports, chiefly oral, upon books read outside of class, the aim of the one giving the report being to interest other pupils in the book. For this purpose, it is best not to allow the whole story to be told.

(h) Imaginary conversation between characters in books. This may lead to dramatizing scenes or chapters, and to acting them before the class or school.

(i) Simple exercises in argument, the topics usually growing out of school life, the aim being to teach the pupils to keep the question, and to treat their opponents courteously.

(j) Much drill in practical exposition, pupils telling how to do things, how to find things, how to go to various places, how various contrivances work. Much of this should be oral, or at least read before the class, and tested by the question, Has the writer made it clear to one who did not know.

(k) Accounts of visits to points of interest, trips thru a factory, visits to museums, etc. If this is a class exercise it should be preceded by a talk telling the pupils what they are to observe particularly. Sometimes the teacher may announce that the best composition on this topic will be published in the school paper.

2. The following topics in grammar should be taught:

(a) The sentence as simple, complex, or compound; principal and subordinate clauses; connectives of subordinate clauses; types of conjunctions connecting independent clauses in compound sentences; elliptical sentences.

Grammar
Material

(b) The parts of speech; classes, forms, and uses of pronouns; the idea of person, number, and voice of verbs developed (paradigms of indicative mood built up by way of illustration); subordinating and coordinating conjunctions, interjections.

Following are some method suggestions:

1. The general principle to be kept in mind is that of unity of aim and variety in exercises tending to accomplish this aim. The objects of the course as stated under (a) should be kept constantly in mind.

2. Motives for composition work should be sought in the life of the school and of the community. A letter written to a pupil who is kept at home by sickness, and who wants to know what is going on at school; an address in favor of a candidate for school office; a debate on a question of local interest which is being discussed in the newspaper—such topics help to vitalize the work.

3. Oral discussions and the framing of a brief outline should be constructive and should point out merits as well as faults. In pupil criticism it is particularly necessary to require this.

4. Composition work should be localized. The pupil should write with a definite audience in mind, and as far as possible, his work should be presented to the class. Class criticism should in a large measure take the place of teacher criticism. If the purpose in writing is made clear in the assignment, and if the general aims are kept before the members of the class, they can criticize a theme very successfully, and the reaction upon the writer is more marked than when the criticism comes from the teacher.

5. Blackboard work should be a prominent feature. These exercises should be brief enough to allow many to be written and criticised within the recitation period. The use of colored chalk to indicate mistakes is effective.

6. To secure variety and flexibility in sentence structure there should be abundant drill in sentence manipulation. This, as experience shows, is not only effective but interesting, since it introduces an element of challenge or contest. This exercise may have various forms, such as:

(a) Combining a number of brief statements into a single sentence.

(b) Changing compound sentences into simple or complex ones.

(c) Reshaping awkward sentences, especially such as contain unnecessary repetition.

(d) Punctuating many sentences, or repunctuating faulty sentences. This is effective in showing the relationship of part to part and supplements the grammar study, giving it practical application.

7. As the pupil is now beginning to write longer themes, it becomes important to emphasize somewhat the paragraph as a unit of discourse. This may be done in various ways, as:

(a) Analyzing parts of the books and magazines read, to show that good writers observe the principles of paragraph unity.

(b) Planning themes in class and requiring that each main topic be developed as a paragraph.

(c) Requiring pupils occasionally to exchange themes and test paragraph unity by trying to write the topic of each paragraph in the other's theme.

(d) Assigning topic sentences and requiring pupils to develop them into paragraphs.

Method

8. The study of spelling should be continued as outlined.

9. Necessary punctuation should be taught.

GRADE IX:

1. To arouse an intelligent interest in the structure of the whole composition and the coherence of its parts.

2. To broaden the pupil's knowledge of grammar, with emphasis upon the forms of the verb.

Aims of
Composition,
9th Grade

3. To make the misspelling of common words an uncommon occurrence.

Desirable ninth grade composition material is:

1. Themes of various types, some of them continuing the work explained in Grade VIII. Other projects are:

Material

(a) Themes dealing with various occupations. Each pupil chooses a calling about which he can obtain first-hand information. In a class a general outline is made, covering such points as: How to enter this occupation; the work done by those engaged in it; what qualities are necessary for success; advantages and disadvantages of this calling. If a number of these themes are read before the class it will start the pupils to thinking vocationally.

(b) In descriptive writing occasionally select subjects that allow of appeal to several senses, and then judge the themes by the fullness of the sense appeal. For example, the contents of a lunch basket may be described in such a way as to make the reader see, feel, and perhaps smell each article, until he fairly grows hungry.

(c) An incident in a book may be rewritten as if it were an actual occurrence which the pupil is to report for a newspaper, giving the article suitable headlines.

(d) Letters may be supposed to pass between characters in books. For this it is best to select books with which the class is familiar so that the pupils can judge how well the writer has caught the spirit of the character.

(e) Reports, chiefly oral, on current events, based upon newspaper reading. This affords an opportunity of teach-

ing pupils to discriminate between important and unimportant news. Good cartoons may also be brought into class and made the subject of discussion.

Material

2. The grammar work for this grade is as follows:

(a) The sentence: Word order; agreement; variations by condensation of clauses or expansion of verbals and of phrases; essential and nonessential clauses.

(b) The parts of speech; various uses of nouns; substitutes for nouns; modes of the verb (indicative, imperative, and subjunctive); verb phrases; parts of troublesome verbs; building paradigms; uses of infinitives and participles; words used now as one part of speech, now as another; expletives.

Most of the points of method given under Grade VIII apply here as well. To these may be added:

Composition
Method

1. Certain elementary principles of rhetoric, such as sentence and paragraph unity, which have been taught previously, should be applied rigidly in criticism. In addition the planning of a longer composition should be taught both by the analysis of good examples and by practice in making outlines. The general principle of coherence should be taught, as applying to the sentence within a paragraph and to the paragraphs that make up the whole composition.

2. Work in spelling should be so emphasized as to make pupils feel that it is absolutely inexcusable to misspell the words they habitually use.

GRADE X:

The aims in tenth grade work are:

Composition
Aims,
10th Grade

1. In general, clearer and more logical thinking; more correct, more clear and forcible expression.

2. Particular emphasis should fall on the sentence and on the elaboration of the paragraph.

3. Pupils should learn how to handle typical problems of business correspondence near to ordinary experience; telegrams.

Aims

4. Pupils should also have the opportunity of forming right habits in the use of the newspaper.

5. Advance in punctuation.

Tenth grade composition material:

Material

1. For paragraph writing: Subjects familiar to the pupil which lend themselves to treatment by contrast, by

comparison, by example, by details, etc. Questions of civic interest and those concerning vocations are suitable material; also work in the shops or laboratories, and topics taken from other subjects in the curriculum.

2. Themes based on literature, provided the exercises are of vital interest to the pupil and do not lead to literary criticisms and questions of technique. Problems of human conduct suggested by reading the classics furnish excellent material. For example, (a) Should Jean Val Jean have revealed his identity? (b) Why Brutus failed. (c) Can the boy of today plan his life as Franklin did? (d) Gareth's ideals and the modern boy. (e) The development of the character of Silas Marner.

3. For dramatization; conversation in real life revealing character; arguments carried on by conversation concerning familiar subjects; chapters from books that lend themselves easily to the dramatic form.

4. Incidents written up as news stories; brief editorials on matters of student opinion; advertisements, particularly if they can be put to use.

5. Class discussions of topics of current interest.

6. Spelling of words needed in themes; word building for increase of vocabulary.

1. Pupils should be taught how to organize material by the use of notes and outlines. Analysis of good paragraphs by contemporaries will help.

Method

2. Pupils should also be taught how to test a paragraph as to its unity and point of view by summarizing it in a single sentence. This and the preceding suggestion apply particularly to explanation, expression of opinion, and historical narrative.

3. Study sentences by examining them in typical paragraphs. Let the class see how a paragraph is divided into sentences—how the sentences succeed each other and are related to each other.

4. Assist to greater ease in handling sentences by much sentence manipulation. Let the class condense, combine, transpose, expand, divide sentences of various types; make sure that they recognize grammatical relationships.

Method

5. Show how clearness may be obtained by the use of connectives; by correct placing of modifiers; by unmistakable reference of pronouns; by correct sequences of tenses; by avoiding dangling participles; by omitting unnecessary words; by punctuation.

6. Speaking first and writing afterward is one way of insuring good organization and effective treatment of details.

7. Require each pupil to keep a list of words and expressions which he misuses or which he ought not to use at all, with correct equivalents.

GRADE XI:

Composition.

Composition
Aims
11th Grade

1. To give experience in collecting and organizing material for themes of some length—1,500 words or more; to show how to secure interest and appropriate emphasis.

2. To give practice in debating and parliamentary usage.

3. To extend and fix knowledge of the principles of paragraph structure and sentence structure.

4. To make the use of words more mature and more accurate.

5. To provide varied practice in the preparation and presentation of short talks, articles, editorials, and descriptions.

Material for eleventh grade work is:

1. For short themes, expository descriptions of natural phenomena and mechanisms; plans of cities; discussions of colleges; informal arguments for and against certain vocations.

Material

2. For long themes, material on science, manufacturing, commerce, or biography gathered from current books and periodicals and from observation.

3. Class study of prose, such as the best articles in the *World's Work* and *Review of Reviews*, in order to develop the idea of logical construction.

4. Class study of examples of social letters by recognized authors.

5. So much of grammar and rhetoric as the work of the pupils seems to demand.

6. Current events, magazine articles, topics developed by observation and library work, questions for informal debate, biography, general reading.

7. Special courses: (a) Short stories; (b) dramatizations and verse making; (c) debating; (d) newspaper writing; (e) economic and industrial interests; (f) commercial correspondence.

Method suggestions for eleventh grade composition are:

1. Speaking, writing, reading good examples, and rewriting is a good sequence of activities.

2. Have class exercises in the organization of material.

3. Let members of the class report progress, exchange readings and clippings and bibliography.

4. Let pupils hand in outlines in advance of finished papers.

5. Pupils should learn how to consult library catalogs and periodical indexes such as the Reader's Guide, how to file notes and keep a card index, and how to revise manuscript.

6. Most of the work of writing should be done in the classroom under supervision.

7. There should be much testing of the pupils' work as to clearness through unity and coherence.

The three adopted texts on Composition and Grammar, Ward's Sentence and Theme, Lewis and Hosie's Practical English for High Schools, and Ward's Theme Building, were written to meet the requirements mentioned in the foregoing pages.

For example the Committee on Reorganization of English in Secondary Schools stated that one ability to be cultivated is "The Sentence Sense." This is the big problem in the eighth grade, and recent investigation shows that Ward's Sentence and Theme is a definitely mapped year's campaign to reach the "sentence sense" goal. It makes a concentrated attack on those defects of the sentence which are constantly recurrent in beginners' themes. Adequate provision is made for composition work in the eighth grade. There are forty exercises in theme writing, as for example, on page 47. This text also stresses the importance of spelling, and suggests proper methods of teaching it in thirty-nine sections, related to composition work, as Section 39, page 61; Section 77, page 100. Unless the spelling is taught in connection with the work in English, it does not function in the written work of the pupil.

Method

Adopted
Texts

Ward's
Sentence
and Theme

Lewis and
Hosic's Prac-
tical Eng-
lish for
High Schools

For the ninth grade, Lewis and Hosic's Practical English for High Schools continues the work in spelling and composition. His classification and treatment of the parts of speech is complete. As one illustration of how this text complies with the recommendations of the Committee on the Reorganization of English in Secondary Schools, notice that it devotes eighty pages to the subject of letter writing, giving specimens of formal and informal, personal and business letters. His treatment of the business letter is effective and exhaustive. Since every pupil who graduates from a high school is expected to understand and to practice correct letter writing, the teacher should not underestimate the value of these exercises.

Ward's
Theme
Building

Ward's Theme Building is written from the standpoint that good composition is "Steady progress from point to point," and constant practice is provided in the development of the paragraph and the art of passing skillfully from one paragraph to the next. Since this text provides for oral composition, theme writing in the class room under supervision, and pupils' criticism of the work of their contemporaries as recommended by the Committee on the Reorganization of English in Secondary Schools, the teacher cannot do better than to follow it closely.

On practically every page of the adopted texts, provision is made for carrying out some recommendation of the Commission on Reorganization of English in Secondary Schools.

ENGLISH LITERATURE:

Material from the Report of the Commission on the Reorganization of English in the Secondary Schools is given below in connection with the discussion of Literature.

General
Purpose

The essential object of the literature work of the high school is to appeal to the developing sensibilities of adolescence as to lead to eager and appreciative reading of books of as high an order as is possible for the given individual, to the end of both present and future development of his character and the formation of the habit of turning to good books for companionship in hours of leisure. To this general purpose, stated somewhat more in detail in the first three paragraphs below, all other purposes must be secondary.

1. To cultivate high ideals of life and conduct through literature of power, in so far as such appeal is adapted to the understanding and sympathies of pupils of these grades.

2. To stimulate the imaginative and emotional faculties of the pupil to a degree comparable to the development of his reasoning powers to his other school work.

3. To broaden the mental experience by supplying a sympathetic acquaintance with scenes in various geographical sections and with historical periods of the world. This has two distinct values: (1) Psychologically it forms centers of apperception about which fresh facts will tend to accumulate in the future, the process being vitalized by the human interest attaching to the central historical or fictional figures; and (2) by the presentation of persons acting in accordance with the demands of conditions new to the pupil and attack is made early in the educative process upon the tendency toward a merely local or provincial outlook upon life.

4. To give the pupil early a delightful first-hand acquaintance with the simpler writings of some authors of high rank to the end that he may later pass easily and naturally to their more complex works.

5. To present such a variety of types of literary production as is consistent with the pupil's mental grasp in the given grade and with the accomplishment of the other purposes herein indicated.

6. To improve the pupil's powers of self-expression by energizing his thought, by presenting worthy models of construction, and by instilling a feeling for style in the narrow sense through specific study of technique.

7. To fix in memory a considerable body of suitable poetry and prose, which shall serve throughout life as a source of joy, a criterion for the evaluation of other writings, and a stimulus to further reading.

8. To train pupils in discriminating among the current publications and dramatic productions, choosing the best.

9. The literature lesson should broaden, deepen, and enrich the imaginative and emotional life of the student. Literature is primarily a revelation and an interpretation of life; it pictures from century to century the growth of

the human spirit. It should be the constant aim of the English teacher to lead pupils so to read that they find their own lives imaged in this larger life, and attain slowly, from a clearer appreciation of human nature, a deeper and truer understanding of themselves.

10. The study of literature should arouse in the minds of pupils an admiration for great personalities, both of authors and characters in literature. No man is higher than his ideals. Human beings grow unconsciously in the direction of that which they admire. Teachers of English must, then, consciously work to raise the pupil's standards of what is true and fine in men and women. The literature lesson must furnish the material out of which may be created worthy and lasting ideals of life and conduct.

11. The literature lesson should raise the plane of enjoyment in reading to progressively higher levels. Reading is still the chief recreation of many people. It should be the aim of the English teacher to make it an unfailing resource and joy in the lives of all. To make it yield the greatest pleasure will involve the consideration of literature not only as to its content as a standard of facts and ideas but as an art. The literature teacher should not be content with rousing an interest in what is said; if he would give the fullest enjoyment, he must develop some appreciation of the way in which it is said.

12. In order that the reading habit may yield the pleasure and joy of which it is capable, the English lesson should give to the student such knowledge of the scope and content of literature as will leave him with a sense of abundance of interesting material, and a trained ability and desire to find for himself such intellectual and spiritual food as he may need for his growth and his pleasure.

13. In order that the above ends may be realized, the teacher of literature must assume his part in the conscious development of the intellectual faculties of his students. They must be trained not only to feel more sensitively and deeply, and to imagine more vividly, but to think more accurately and intelligently, that they may have the power not only of correct interpretation but of sane and wise application to life of the literature to which it is the duty of the teacher to lead them.

Following are some criterions which will aid in the selection of high school literature.

1. Value of content (power of broadening the mental vision and stimulating thought); ethical soundness, human sympathy, optimism; literary qualities.

2. Power to grip the interest of pupils of the given grade. They must enjoy, not merely tolerate.

Choices of
Literature

3. Subordination of excellence of style, when necessary, to value of content and power to arouse interest.

4. Recognition of the fact that the reading interests of eighth and ninth grade pupils are almost entirely narrative, but that there should be an effort to secure such diversity as is possible in time and place of action, with due attention to heroic subjects, and to the best from foreign literatures and the past.

5. A variety of choice such that no school shall be required, for the sake of uniformity, to refrain from doing its best in both organization and extent of course.

6. The need of organizing the reading, especially that to be done in class, so that the selections will constitute something of a progression or course. It must, however, be recognized in the literature of grades eight and nine that there are but two fundamental principles of arrangement or development; namely, variety within clearly marked limits and gradual growth in breadth of content and depth of appeal.

7. Literature chosen for any given school should make a natural appeal to the pupils concerned, for without interest, which depends upon this appeal, there will be no enjoyment; without enjoyment, there will be no beneficial result. All literature that in the light of experience contains no such appeal should be excluded, no matter how respectable it may be from age or reputation.

8. The literature chosen for study, as distinguished from that used as supplementary reading, should be above the level of the pupil's unguided enjoyment, otherwise there is no raising of the standard of taste. It is the task of the teacher to discover to the pupil undreamed-of interest, and to lead him to find enjoyment in literature increasingly rich and fine.

9. In order to attain the first end of literature, the broadening of the mental and spiritual horizon of the student, the books chosen for study should be worth while; that is, they should contain stimulating thought, sound ethical ideals, normal and strong characters, noble conduct, pure feeling. This does not imply that every book should point a moral, but that the pervading ethical tone of every book should be without question sound, in order that its effect may be wholesome, at a period in which standards of conduct are being formed that may last through a lifetime. The morbidly introspective, the vicious, the mentally abnormal, even when drawn with great art, should not be presented to adolescents.

10. In order that the literature course may leave with students an abundance of rich material from which, throughout life, to make choice in reading, some historical view of literature should be given. To do this, it is not necessary to study the history of literature with any thoroughness, nor to study or even mention writings whose importance is mainly historical or whose appeal is to an experience of the world far beyond the possibility of high school students. It is important, however, to cover all the greater writers of our past who approach the young mind, in either experience or its ideals; to extend as far as possible the mental reach of the pupils, by making them feel the lasting values of some of our older literature. It is also important to encourage, by means of supplementary reading lists and library reference topics, individual excursions in to literary fields not the province of regular class work.

11. In general, the trend of choice should favor the "classics." We hear much today of the need for contemporary literature, as if a substitution of current books for those who have endured or are enduring the test of time, would solve the problems of English teaching. The main trouble lies not in our choice of books. Classic literature still has an appeal for healthy-minded young people, if it is sympathetically and wisely presented. However, students must be shown how to find the riches in great books; their gold does not lie in the surface, but yields only to patient search. Great books still have the power to strengthen and

uplift to furnish solace and good cheer. Who shall say that boys and girls of today will not need their clear note of inspiration and courage as much if not more than their fathers and mothers of yesterday. It is the joyous prerogative of the teacher of literature to lead his pupils to this source of permanent riches. If he fails, it is not because the wealth is no longer of value, but because he is unable to point the way.

12. The English course should provide a variety of literary types. A true education should offer a range of material wide enough to encourage a versatility of tastes; it should also give some conception of the comprehensiveness of literature. More important still, it should offer variety enough to make it possible for each student to find the type which holds for him the highest pleasure and greatest good. The boy for whom lyric poetry has little appeal may be roused to thought and action by the drama or novel; one attracted by none of these may be caught and held by the essay or great public speech. Moreover, the young mind craves change; it is incapable of the long-sustained attention of the maturer student of college grade. School literature, therefore, must be varied enough to permit of necessary adaptability and change.

Both the pupil's reading in high school grades and the teacher's guidance of that reading naturally divide into two distinct phases. A few tried pieces of high order may well be read in class sympathetically, for content and beauty, and at the same time simpler works should be read by the pupils individually and for the most part at home. The class room work will stimulate and help to control the outside reading and this in turn tend to develop the desired habit of reading freely and wisely. There will be suggested methods appropriate to each of these forms of the teacher's work.

General
Method

Following are some suggestions by the commission as to methods of teaching literature.

1. Fundamental is the comprehension of the meaning of the work as a whole, and of the contribution of its various parts to that meaning. In narrative this involves an understanding of the cause-and-effect relationship between the various incidents and between character and action, a study that often culminates in the perception of some pervading

Classroom
Method

principle governing human life. As to order of procedure, in the case of many shorter forms it is advisable to begin with an oral reading that carefully preserves the spirit of the work and to follow this reading with a discussion of the more important interpretative details. In the case of the longer works it is usually necessary to examine first the successive sections and then by a rapid review to unify these into a compact whole. It is important to avoid the two extremes (1) of merely reading the work without any adequate comprehension of its message, and (2) of entering into labored analysis. What constitutes an effective middle between these extremes must be settled independently by each teacher for each work on the basis of (1) the difficulty of the writing and (2) the needs and mood of the class.

2. Stimulation of the imaginative and emotional faculties of the pupil is mainly dependent upon inducing him to identify himself in thought with the writer and (in narrative) with the characters. He must be led for the time to see and to feel as did the writer, or to hope or fear, to despair or triumph, as do the characters in the play or story. To this end more than to any other must the teacher's interpretative powers be bent, for if he fails in this, the work can not rise above the mediocre. As a means of securing this attitude of mind, the pupil may, for instance, be asked to visualize a scene orally without glancing at the text, the test in such a case being consistency with the author's conception, and not mere repetition of details held in memory from the reading; or he may be asked to talk or write upon a situation parallel with that in the text, but drawn from his own experience, real or imagined; or he may take part in arranging and enacting simple dramatizations.

3. The teacher should be equipped with various types of additional information for various types of writings. Such are: Additional features of background, human and otherwise, for foreign scenes; details concerning the life and conceptions of the peoples, who produced such primitive form of literature as "The Odyssey" or "The Song of Roland;" and anecdotes illustrating the personalities of the authors. Such detailed methods, however, as are involved in the presentation of a play of the time of Shakespeare have in general no place in the work of the high school.

4. In the reading of poetry special attention should be paid to the cultivation of a keen ear for the lilt of the verse. In the eighth and ninth grades the chief reliance must be upon the pupil's sense of rhythm as stimulated by contact with a teacher skilled in oral interpretation, but by the beginning of the tenth grade he should perhaps be ready for a knowledge of the use of the four principal feet as obtained by the analysis of very simple and regular lines of verse and by making verses of his own.

5. Some of the passages read should be committed to memory, the passages being assigned by the teacher, or selected by the class as a whole, or left to the choice of the individual members of the class. The method of memorizing is important. If pupils will read aloud the passages selected, once or twice a day thoughtfully for a couple of weeks, they will find they have unconsciously mastered them. Passages so memorized will be remembered much longer than those learned in shorter sections day by day. Several repetitions of such passages at gradual lengthening intervals will be necessary to insure their permanent retention. Memorizing should follow, not precede, a clear perception of the progress of the thought of the selection.

6. Grammatical analysis and word study are valuable aids in determining the meaning of a given passage, and should be used whenever necessary for that purpose. Their introduction into the literature hour for any purpose other than this, however, is to be deplored. Other uses, essential and vital, they have; but these should be given another place in the English course.

Classroom
Method

The closely analytical treatment of all literary masterpieces, with an exhaustive study of notes, allusions, figures of speech, meanings of words, etc., is happily giving way before the just criticism which has assailed it, to a more intelligent handling, which decides upon method in accordance with the value of the piece to be taught and the chief ends to be attained by its use. Along with this outgrown method should also go much of the present reading in class, especially the common practice of reading ahead at sight, with one pupil repeating to the rest the words of the book open before them. Such an exercise is usually sheer waste of time.

There is rarely, if ever, grasp enough of the thought on a pupil's part to make the reading in any sense illuminating, so that the effort is worse than useless. There are however, other kinds of classroom study that are effective aids in varying and enlivening a literature class. These include:

7. Interpretative reading, in which the minds of all are actively engaged on the problem of how the thought of the writer can best be expressed. This is the only kind of reading aloud by students that is worth while.

8. Discussion, necessitating some personal reaction, such as the formation of opinions on what has been read. This calls for skillful questioning on the part of the teacher, to avoid mere recital of facts on the one hand, and bluffing on the other.

9. The sharing of information (resulting from library work, etc.) that throws light on the book being studied, or in some way enlarges the cultural background.

10. Reports on supplementary reading, not perfunctory, but such as advertise to the class the book read.

11 Practice in reading to one's self in the particular manner suited to a special book. This may be a "books open" exercise, based on definite directions from the teacher, and ending in some test of the efficiency with which they have been applied.

12. Memorizing. This should be definite and regular; a body of selected passages of high worth should be required in each year. Passages should not be long, but should be rigidly insisted upon. The habit of memorizing can in most cases be trained by practice, so that the task becomes easier; and the result, a body of good verse and prose permanently in the mind, is perhaps the best thing pupils can get out of their study in English.

13. Dramatizing. A valuable exercise, especially in the ninth and tenth grades, as an aid in arousing interest and leading to more attentive reading and clearer visualization, though in the present highly stimulated state of all dramatic work, in danger of being overdone. It should not be used, however, unless the material has actual dramatic appeal.

14. Home reading. This is very important because it is what the school is trying to train young people to do. It

should include use of the public library, having a library card, learning to use the catalog and the ordinary books of reference, drawing books for recreative reading. It should also include some guidance in book buying. Pupils ought to know that, through the "Everyman's Library" and other series, almost any really important book in literature can be had in attractive form for a price within the reach of all. There should be as much as possible of home reading under stimulated guidance, and of definite occasion provided for pupils to talk freely about what they read of their own choice.†

A graduate of a high school should meet the following requirements in English.*

Desirable
English
Accomplish-
ments

"A. He should have ability:

1. To write original compositions—whether they be narration, description, exposition, or simple argument—that are logically planned and so developed as to be conspicuous for unity and coherence. The spelling and grammar should be correct and the punctuation adequate.

2. To plan coherently and give fluently a five-minute talk on some practical subject on which he has had time to think.

3. To write any common type of business or social letter with technical accuracy and with simplicity and directness.

4. To find and organize material for an original composition of 1,000 words upon business, political, historical, literary, or scientific subjects.

5. To read aloud at sight, with intelligence and clear enunciation, anything from a newspaper to a classic of ordinary difficulty.

6. To tell why a piece of literature (like a standard novel or essay, or a lyric poem such as may be found in the Golden Treasury) has merit.

7. To quote either orally or in writing 200 lines (not necessarily consecutive) of classic prose or poetry.

†The preceding sections bearing upon composition and literature, and including about twenty pages, were copied almost verbatim from the Report of the Committee on the Reorganization of English. Slight changes by way of adaptation were made in a few places. A number of paragraphs were added by the author of the Manual. Quotation marks were omitted for these reasons.

*Page 75, High School Bulletin, No. 23, by H. M. Ivy, State Supervisor, Secondary Schools, Mississippi.

B. He should have a working knowledge of the course of both English and American literature, of their great names and great books, and of some of the most significant influences in history and life that have molded such literature.

C. In addition to regular prescribed work in literature he should have read (from an approved list) four good books of short stories, five good novels, three good plays, two good biographies, two good books of history and travel."

SUMMARY OF ENGLISH BY GRADES

English in the eighth grade includes oral and written composition, grammar, spelling, and literature. While some of the better organized high schools may complete Ward's "Sentence and Theme" in the eighth grade, a majority of the schools will require longer than one school year to complete this text. If a study of 235 pages of this book, and *The Sketch Book*, *Lady of the Lake*, *Julius Cæsar*, and *Treasure Island* are completed in the eighth grade, one credit unit in English will be given, provided the required number of hours are devoted to a study of English and the quality of the work done is satisfactory. If supplementary reading in addition to a study of the classics named in the literature course of the eighth grade can be done, it will strengthen the English course of the grade and therefore be desirable. An unhurried, thorough course of three semesters devoted to a study of *Sentence and Theme* will probably prove the more satisfactory.

Sentence and Theme provides for the teaching of spelling in connection with composition work, drill work being systematically provided in the spelling of the 765 words most commonly misspelled by eighth grade pupils. This text also provides for the writing of forty themes. Functional grammar is stressed throughout *Sentence and Theme*. In teaching this text, teachers should use the author's manual which is entitled "Pilot Book for *Sentence and Theme*." This manual or pilot book gives detailed instructions in the use of the text. It will greatly facilitate the work in punctuation if pupils are required to use "Punctuation Leaves" for use with *Sentence and Theme*. These are bound in pamphlet form and can be purchased for twenty cents. In the eighth

grade three days a week should be devoted to a study of Sentence and Theme and two days a week to a study of Literature.

NINTH GRADE ENGLISH:

The work of this grade also includes a study of oral and written composition, grammar, spelling, and literature. The teacher should not grow impatient because the work indicated for this grade is an apparent repetition of the eighth grade work, because it takes patient practice and frequent repetition and drill to "make perfect" in composition work. As in the eighth grade, three days a week should be devoted to composition and two to literature throughout the ninth grade. Schools which do not complete Sentence and Theme in the eighth grade will complete it in the first semester of the ninth grade, after which about 164 pages of Practical English for High Schools should be completed in the ninth grade. The completion of a study of the last 115 pages of Sentence and Theme, the first 164 pages of Practical English, and Mikels' Short Stories for English Courses, Enoch Arden, Macauley's Lays of Ancient Rome, and David Copperfield in the ninth grade is the minimum for which a credit unit in English may be given. It is desirable that additional supplementary or home reading be done in literature. A thorough and unhurried course in the composition texts is also recommended for this grade. Ample practice in oral and written theme work may not be provided if Sentence and Theme and Practical English are completed in too short a time. The manual for Sentence and Theme should be used by teachers. Directions as to method of procedure are given in the text of Practical English. Throughout the eighth and ninth grades, themes should be written at school under direction of teacher. The ninety-minute study-recitation period can be used to good advantage in theme writing.

Ninth
Grade
English
Summar-
ized

TENTH GRADE ENGLISH:

Throughout the tenth grade two periods a week should be devoted to composition and three to literature. A study of pages 164 through 390 of Practical English, and Queed, Pied Piper, As You Like It, and Ivanhoe constitute the minimum for which a credit unit may be given in the tenth grade. While an unhurried, thorough course in Practical

Tenth Grade
English Sum-
marized

English supplemented with additional practice in oral and written composition is recommended for the tenth grade, it is desirable that additional supplementary literature be read by the tenth grade pupils. The study of Miller's English Literature as a supplementary text should follow the completion of a study of the four prescribed texts in literature; should be informal; should not stress names, dates, and facts of historical background; and should be read for pleasure, entertainment, and incidentally for information. Recitations based upon this text should be characterized by blackboard outlines and summaries, individual reports, and reference readings with definite purposes. Queed, a modern novel, deals with very recent events; the style is particularly appealing, and there is a good love story without sentimentality.

ELEVENTH GRADE ENGLISH:

Two periods a week should be devoted to Theme Building and Analysis, and three periods to literature in the eleventh grade. If suggestions in Workways for Theme Building, a teacher's manual for Theme Building, are followed out by the teacher, all pupils of the eleventh grade will be able to complete the first 387 pages of Theme Building. The best pupils of the eleventh grade, through special assignments, should learn Chapter twenty. A study of the first 387 pages of Theme Building, Arnold's Wordsworth, Macaulay's Life of Johnson, The Gentleman from Indiana, Macbeth, and Vision of Sir Launfal is the minimum for which a credit unit may be given in the eleventh grade. After completing the work named above, if there is time left, Dalglish's Grammatical Analysis may be taught. Supplementary reading in literature may be assigned for home reading and upon which reports may be made. Pace's American Literature should be used as a supplementary text in literature. The method of procedure in teaching this text should be similar to that described on page 89 for Miller's English Literature in the tenth grade. The Gentleman from Indiana, another modern novel, is a strong and realistic novel of love and politics in the "Middle West." Woolley's Handbook of Composition may be purchased and used by pupils in connection with their theme work if

local conditions demand it. It is believed, however, that part six and the appendix of Theme Building constitute sufficient reference material for eleventh grade pupils.

The literature selections named in this manual as minimum requirements in each high school year, or grade, fulfill the requirements published by the National Conference on Uniform Entrance Requirements in English published in pamphlet form on February 22, 1922. In schools operating under the general school law, changes and substitutions in the published lists of literature texts are not authorized; in schools operating under special charters, substitutions may cause literature offerings to fall short of college entrance requirements.

Books on the principles of teaching and which all teachers should read have been listed on page 52 of this manual. In addition to these, every teacher of English should own and be familiar with the following books:

1. Bulletin, 1917, No. 2, Reorganization of English in Secondary Schools, Supt. Public Documents, Washington, D. C. Twenty cents.

2. The teaching of English in the Secondary School, by Thomas; Houghton-Mifflin Company, Boston, Mass. \$2.00.

3. How to Teach English Classics, by Thomas; Houghton-Mifflin Company, Boston. 27 cents.

4. Shepard's Shakespeare Questions; Houghton-Mifflin Company, Boston. 76 cents.

5. Pilot Book for Sentence and Theme; Scott Foresman Co. Free.

6. Workways for Theme Building, Scott Foresman Company. Free.

The four books last named may be secured through the Central Text Book Depository, R. L. Bryan Company, Managers, Columbia, S. C. Every English teacher should subscribe for and read The English Journal, a monthly publication; 68th St. and Stewart Ave., Chicago, Ill. \$2.50 per year.

HISTORY, CIVICS, AND GOVERNMENT:

(Social Studies)

General aims of Social Studies:

Literature
Substitutions
not Author-
ized

English
Teachers'
Bibliogra-
phy

Ideals and
Loyalty

“High National ideals, and intelligent and genuine loyalty to them should thus be a specific aim of the social studies in American high schools.” (Social Studies, p. 10.)

Such studies as History and Civics give the teacher opportunity to clarify the pupil's comprehension of right and wrong.

Moral
Values

“In grades 8, 9, 10, and 11 these subjects can be so taught as to bring home certain large conceptions like that of social heredity, i.e., the truth that the acts of one generation bear fruit for good or ill in the lives of the generations that follow. For instance, when a ship landed in Jamestown in 1619 with a cargo of slaves, the consequences of that act appeared over 200 years later in all the tragedies of the war between the States. Our pupils will be better citizens if they form the habit of forecasting the effect likely to be produced upon future generations by what society is doing or failing to do at the present time.

“A second conception of this kind is that of social progress. Too frequent an obstacle to social advance is the inability of great masses of people to understand that prevailing practices, in spite of their long and apparently secure entrenchment, should and can be changed for the better. One of the aims of history teaching should be to show how man has improved upon his customs and institutions, and to encourage the conviction that further change is still desirable and possible. As Professor Robinson says in the New History, there is every need to throw the weight of our influence on the side of the new truth which has not yet won recognition rather than on the side of what is already well established:

“‘At every crossing on the road that leads to the future, each progressive spirit is opposed by a thousand men appointed to guard the past. Let us have no fear lest the fairest towers of former days be sufficiently defended. The least that the most trained among us can do is not to add to the immense weight which nature drags along.’

“Care must be exercised, however, to keep young people from minimizing the good even in institutions which need reconstruction. The first essential to making the environment over for the better is a genuine appreciation of what

still deserves to be honored. In this connection pupils should be reminded how largely today's advance over the past is due to the very labors of which they may now be tempted to think lightly. For example, we know vastly more about America today than Columbus knew, but only because of what he achieved. 'A dwarf perched upon the shoulders of a giant' sees farther than the giant does; but he should remember why.

"The social studies present an opportunity for the teacher to clarify those misused terms 'liberty' and 'equality.' There is a better reason for prizing American freedom than the fact that it permits one to do as he pleases within the limits of noninterference with others. On moral grounds, freedom is the opportunity to express what in each human being is best. Our political liberty, therefore, is to be cherished for the opportunity which it affords the humblest citizen not to do as he chooses, but to share to the full extent of his unique powers in the common responsibility for the improvement of American life. Emphasis should be placed upon the desire to participate in common duties rather than upon the enjoyment of privileges. The hope of the recent revolution in Russia is that talented men and women, instead of being sent to Siberia as heretofore, may now be encouraged when they offer their gifts to their country. Political freedom is to be prized for providing such a chance. This is the reason why voluntary group activities on the part of the pupils afford such excellent preparation for citizenship.

Moral
Values

"The idea to be stressed in these group undertakings is the advantage of participating voluntarily in the common responsibility.

"The subject of equality may be treated in like manner. Americans are far from equal in intelligence, character, and power. Here is an excellent occasion to discuss with the pupils the moral basis of respect and superiority. Men are morally equal in the sense that each is presumed to be capable of appreciating his duties and of trying to live up to them. The most unlettered man is dignified by the fact that he possesses this mark of what is essentially human. Freedom and equality, therefore, are tributes to the dignity suggested by men's possibilities, not by their actual

accomplishments. If the right to vote rested upon perfect fitness for civic responsibility, which of us would be wise enough and good enough to merit the franchise? Equality assumes that each can try to be his best. Since this best varies, however, with the individual, political equality should be regarded as a means of permitting the valuable inequalities to make their contribution. Expertness should not be suppressed or handicapped by caste restrictions of any kind whatsoever.

“With this conception of freedom and equality must go a corresponding respect for superiority, that is, for superior ability not chiefly in money-making, but in artistic, scientific, philosophical, political, and moral achievement. America should disprove the statement that democracy levels downward.

“Democracy also requires ethical attitudes toward the relatively undeveloped. The idea is that the undeveloped are to be respected for their potential excellence and that the highest obligation of the more privileged is to give the handicapped the utmost encouragement and help to develop their own unique best.

“Other instances might be mentioned to illustrate how the teacher may enlighten the moral judgment of his pupils. Back of the laws of every State lie certain moral convictions based upon the experience of generations; and these convictions, such as respect for fundamental rights, should be interpreted. Elsewhere in this report reference is made to the opportunities for pupils to learn truths of civic relationship by practice.

“At no time in the secondary school ought the opportunity be overlooked for character building through the inspiration afforded by the study of great lives. Nor should the admiration of the pupils be confined to the heroes of their own country. How many have any real sense that Washington was not the only liberator in the world? They should be introduced to what is ennobling in the lives of men and women in other lands, e. g., William the Silent, St. Francis of Assisi, Hugo Grotius, the brothers Grimm, Sir Philip Sidney, Sir Thomas Moore, Florence Nightengale, Louis Pasteur—the field of stimulating biography is rich.

“At every stage much can be accomplished by discussing the moral bearings of the facts about group life with which history is essentially concerned.”

“‘It is not kings and dynasties, campaigns and statutes, that we have to study primarily, but problems; and problems are history in the making. Unless the historian can find the moral problem in the event of the past, he is dealing only with dry bones.’”

“In other words, since people are obliged in every age to learn how to live together, history can be made one of the most fruitful subjects in the school when this point of view is applied to problems such as the following: Ways of earning a living; social classes, their conflicts and adjustments; attitudes toward those who differ—tolerance, intolerance, democratic appreciation, and encouragement; patriotism and changes in the conception of loyalty; science and its relation to health, industry, transportation, social intercourse; war and peace; education; recreation; changing moral standards. The chief value of any such study should be the light that it throws upon similar problems in present life.”

Moral
Values

“The most scrupulous care is needed, however, to guard against pointing a moral by presenting as fact what sound scholarship in history will not warrant. Care is also required lest pupils get false views about heroes and the common people. To make history a matter of the biographies of ‘great men’ is one fallacy; to put all the emphasis upon mass action and slight the contribution of leadership is another. It is likewise fallacious to overemphasize the economic interpretation and minimize the force of ideas.”

Moral
Values

“One of the conscious purposes of instruction in the history of nations other than our own should be the cultivation of a sympathetic understanding of such nations and their peoples, of an intelligent appreciation of their contributions to civilization, and of a just attitude toward them.” (Bulletin, 1916, No. 28.)

Sympathetic
Attitude
Toward Other
Nations

“A primary aim of instruction in American history should be to develop a vivid conception of American nationality, a strong and intelligent patriotism, and a keen sense of the

Patriotism

responsibility of every citizen for national efficiency." (Bulletin, 1916, No. 28.)

Problems to
Emphasize

General Method Suggestions: Instruction in all social studies should emphasize economic, social, and political problems.

Cultivate
Truth-finding
Attitude

History instruction should stress accuracy and thoroughness. Pupils should be required to learn and to weigh evidence; to approach every topic with a sympathetic attitude and a desire to know the truth; and to bring the results of their studies into definite conclusions or concepts.

Topical or
Problem
Method

Adopt to the fullest extent possible a "topical" or "problem" method. Select for study topics or problems with reference to (a) the pupil's own immediate interest, (b) general social significance. The practice of following text book or chronological sequence in history instruction with equal emphasis upon each page of the text is of doubtful value. Some conditions, institutions, and characters should be given preference over others. The "worthwhile" things should be stressed. Topics which constitute the backbone, the minimum essentials, of a course in history should be determined upon and through a series of lessons and readings; each topic should be developed. Assignments should not be made by pages but by topics. The assignment of each topic should be definite as to aim, ground to be covered, and results to be obtained. Probably the whole year of work in United States History may be organized around twenty topics. This type of history instruction recognizes the principle of relative values in history teaching.

Equip Room
for Social
Studies

Equip the room in which social study recitations are held with maps, charts, pictures, models, reference books, and illustrative materials.

For reading matter helpful to the history teacher, the following publications are recommended:

1. The Social Studies in Secondary Education, U. S. Bulletin, 1916, No. 28.

2. Moral Values in Secondary Education, Bulletin, 1917, No. 51.

3. Johnson, the Teaching of History; Macmillan Company.

History
Teachers'
Bibliography

4. American History, Regents' Syllabus; Allyn and Bacon.

5. World History, Regents' Syllabus Courses, A and B; Allyn and Bacon.

6. The Historical Outlook, \$2.00 per year. 1619 Ransstead St., Philadelphia.

SOCIAL STUDIES SUMMARIZED BY SUBJECTS:

Ancient History and Community Civics are suggested as one eighth grade study for pupils taking the general curriculum (see page 47) in both three and four-year high schools. There is no time in which to offer this subject to pupils taking the college preparatory and vocational curriculums (see pages 47 and 48). Eighth grade pupils taking the general curriculum should be required to take Hughes' Community Civics in the first semester and West's A Short History of Early Peoples in the second semester. This sequence is suggested first, because community civics is more easily understood than Ancient History by the pupil entering the eighth grade. Second, Community Civics tends to establish a consciousness of present community relations before the more remote development of these relations are studied. This early study of Community Civics provides a knowledge, an interest upon which to build a course in History in the second semester. West's Early Peoples, instead of West's Ancient World, is suggested for this grade, first, because it constitutes a half year, or one semester course, and therefore makes a half year of Community Civics in the eighth grade possible. Second, West's Early Peoples is a condensed form of West's Ancient World, and while Early Peoples treats the same essential topics as West's Ancient World, the arrangement of the material and the simple style of the author give a continuous story of the past that is better adapted to the ability of the eighth grade pupil to understand than does West's Ancient World. The omission in Early Peoples of some of the material included in West's Ancient World enables the pupil to secure a clearer concept of the History of the Ancient World as a whole (as a unit) and gives him a keener sense of its relationship to the modern world. The illustrations of Early

Community
Civics and
Early Peo-
ples

Community
Civics and
Early Peo-
ples

Peoples give the pupil a clearer picture of the art, architecture, and sculpture of the Ancient World than does Ancient World. A completion of Early Peoples in a semester gives a half unit. Completion of Community Civics in a semester gives a half unit.

General
History and
Modern
World

In the college preparatory and vocational curriculums two years of history are indicated (see pages 47 and 48). In the four-year high schools either General History or Modern World should be taught in the tenth grade, in three-year high schools either one of these texts should be taught in the ninth grade. Modern World devotes 71 pages to Ancient History and General History devotes 239 pages to Ancient History. The high school principal and history teacher or teachers in any high school may decide which of these texts is better suited to the class which has not studied Ancient History. The completion of either General History or Modern World in one school year entitles a pupil to one credit unit in history.

U. S. History
and Govern-
ment

United States History and Government should be taught in the eleventh grade of four-year schools, and in the tenth grade of three-year high schools. For the completion of Stephenson's American History and either Wallace's Civil Government of the United States or Magruder's American Government in 1921 in one school year, one credit unit is given. There are two ways of offering these courses. One way is to complete the History course in the first semester before taking up the government, leaving the government until the latter semester when it is taken up and completed as a separate unit. The other way of offering the courses in History and Government is to correlate them. For example, when the Articles of Confederation are being studied on page 214 of the History, pages 28 through 39, Chapter III, of Magruder's text should be studied. If the courses are correlated in this way one supplements the other and at the end of the year, the essential parts of both texts have been completed.

MATHEMATICS:

Tendencies

The tendency in mathematics instruction is away from the older rigid division into "subjects" such as Theoretical

Arithmetic, Algebra, and Geometry toward composite, correlated, unified or general courses which are functional.

The aims of mathematics instruction may be said to be practical, disciplinary, and cultural. “The primary purposes of the teaching of Mathematics should be to develop those powers of understanding and of analyzing relations of quantity and of space which are necessary to an insight into and control over our environment and to an appreciation of the progress of civilization in its various aspects, and to develop those habits of thought and of action which will make these powers effective in the life of the individual.” (U. S. Bulletin, 1921, No. 32.)

General
Aims

(1) Since mathematical ability as expressed in mathematical achievement and applications is a most powerful agency in advancing civilization and in order that society may profit by its available stock of mathematical ability, there is urgent need of some process that shall disclose this ability from the point of view both of society and its needs and of the individual and his satisfaction. (2) There is the group of general readers who need an interpretative knowledge of mathematics. (3) There is the group which will enter the trades and which will have definite need of a small amount of practical mathematics. (4) There is the group of prospective engineers who will need a considerable amount of mathematics. (5) There is the group which will specialize in mathematics and which will need an amount of mathematics sufficient to satisfy inherent tendencies and demands of further study. (6) There is another group which feels no other need for mathematics than to satisfy entrance requirements to some college or other. South Carolina colleges require mathematics as follows for admission to their respective Freshman classes:

Types of
Mathematical
Needs

Per cent. requiring no unit of Algebra . . .	10
Per cent. requiring 1½ units of Algebra . .	45
Per cent. requiring 2 units of Algebra . . .	45
Per cent. requiring 1 unit of Plane Geometry	90
Per cent. requiring no Plane Geometry . . .	10
Per cent. requiring some Solid Geometry . .	0

When planning mathematics courses, the needs of these six groups should be considered by high school principals.

Teachers who teach mathematics should develop in their pupils the ability to perform all mathematical manipulations with speed and accuracy. The ability to solve problems growing out of every-day life should be developed. Training in "functional thinking," that is, thinking in terms of relationship, should be emphasized. Accomplishment in the development of these qualities should be measured by means of standard tests every three months. The practice of giving partial credit to a pupil for the working of an example or the solution of a problem when his work contains one or more errors is of doubtful value.

While Arithmetic is not considered a high school subject, one-half unit will be given for the completion of Stone-Millis High School Arithmetic. This book contains 120 pages devoted to a few well selected, practical, every-day topics. In addition to this there are a few pages devoted to review. There is no excuse for a high school class devoting more than one semester to the study of this arithmetic. This course is suggested for the first semester of the eighth grade for all pupils taking the General and Vocational curriculums (see pages 47 and 48). Pupils who are taking the college preparatory curriculum and who need only one and one-half units of Algebra for admission to the college of their choice may take the Arithmetic in the first semester of the eighth grade. Pupils should not be expected to study Arithmetic and Algebra at the same time. Arithmetic should precede Algebra and should be completed before Algebra is begun.

The report of the Committee on the Reorganization of Mathematics in Secondary Schools contains the following statement concerning material which should be provided in Beginners' Algebra:

"1. The formula—its construction, meaning, and use (a) as a concise language; (b) as a shorthand rule for computation; (c) as a general solution; (d) as an expression of the dependence of one variable upon another.

"2. Graphs and graphic representations in general—their construction and interpretation in (a) representing facts (statistical, etc.); (b) representing dependence; (c) solving problems.

“After the necessity of technique has been adequately presented graphic representation should not be considered as a separate topic but should be used throughout, whenever helpful, as an illustrative and interpretative instrument.

“3. Positive and negative members—their meaning and use (a) as expressing both magnitude and one of two opposite directions or senses; (b) their graphic representation; (c) the fundamental operations applied to them.

“4. The equation—its use in solving problems:

(a) Linear equations in one unknown—their solution and applications.

(b) Simple cases of quadratic equations when arising in connection with formulas and problems.

(c) Equations in two unknowns, with numerous concrete illustrations.

(d) Various simple applications of ratio and proportion in cases in which they are generally used in problems of similarity and in other problems of ordinary life. In view of the usefulness of the ideas and training involved, this subject may also properly include simple cases of variation.

“5. Algebraic technique: (a) The fundamental operations.

Algebra

“Their connection with the rules of arithmetic should be clearly brought out and made to illuminate numerical processes. Drill in these operations should be limited strictly in accordance with the principle mentioned in Chapter II., page 9. In particular, ‘nests’ of parentheses should be avoided, and multiplication and division should not involve much beyond monomial and binomial multipliers, divisors, and quotients.

(b) Factoring: The only cases that need be considered are (i) common factors of the terms of a polynomial; (ii) the difference of two squares; (iii) trinomials of the second degree that can be easily factored by trial.

(c) Fractions.

“Here again the intimate connection with the corresponding processes of arithmetic should be made clear and should serve to illuminate such processes. The four fundamental operations with fractions should be considered only in con-

nection with simple cases and should be applied constantly throughout the course so as to gain the necessary accuracy and facility.

(d) Exponents and radicals. The work done on exponents and radicals should be confined to the simplest material required for the treatment of formulas. The laws for positive integral exponents should be included. The consideration of radicals should be confined to transformations of the following types:

$\sqrt{a^2b} = a\sqrt{b}$, $\sqrt{a/b} = \frac{1}{b}\sqrt{ab}$ and $\sqrt{a|b} = \sqrt{a}|\sqrt{b}$, and to the numerical evaluation of simple expressions involving the radical sign. A process for finding the square root of a number should be included, but not for finding the square root of a polynomial.

(e) Stress should be laid upon the need for checking solutions."

The two State adopted texts in Algebra should be examined with a view to using the one which the more nearly meets the foregoing recommendations.

With the material made available through the present adopted texts in Algebra, there is no excuse for any class devoting more than three semesters to a completion of quadratics for which one and a half credit units may be given. Pupils who take the General and Vocational curriculums study arithmetic in the first semester of the eighth grade, begin the study of Algebra in the second semester of the eighth grade and complete quadratics in the second semester of the ninth grade. Pupils taking the college preparatory curriculum and needing two units of Algebra for admission to college will begin the study of Algebra at the beginning of the eighth grade and complete the Binomial Theorem and Progressions in the ninth grade. Provision is made in the General and Vocational curriculums for pupils desiring to study the Binomial Theorem and Progressions to do this in one semester of the eleventh grade (see pages 47 and 48). Algebra teachers will find the Sykes Comstock Algebra manual very helpful as to method in Algebra instruction.

Plane Geometry should be taught in the tenth grade of three-year high schools. In four-year high schools in the

college preparatory curriculum, it is necessary to teach it in the eleventh grade (see page 47). In whatsoever grade it is taught Plane Geometry should be studied for thirty-six weeks. When it is studied throughout the school year and completed one credit unit is allowed for it. The task of the teacher of Plane Geometry is to train pupils systematically to do original work. "The only way to teach a student to solve originals is to teach him to analyze a new problem" (Judd, *Psychology of High School Subjects*). Pupils should carry at the same time side by side the study of the proofs of theorems and original work. In a study of Plane Geometry the pupils should be trained to use figures, to appreciate the logical arrangement of the steps, and to analyze problems. The manual based upon Plane Geometry and prepared by Sykes Comstock will prove of great assistance to teachers of Plane Geometry who use it.

Plane
Geometry

Since Solid Geometry is not required for admission to any South Carolina college, and since other subjects of greater educational value, when measured by the standard of "aim and objectives" quoted on page 1, and the practical needs of high school pupils may be offered in place of Solid Geometry, high school principals are advised to offer it only when a specific and justifiable demand is made for it.

Solid
Geometry

Helpful publications for the Mathematics teacher are:

1. Bulletin, 1921, No. 32, The Reorganization of Mathematics in Secondary Education, Superintendent of Public Documents, Washington, D. C.

Mathematics
References

2. Bulletin, 1920, No. 1, The Problem of Mathematics in Secondary Education, Superintendent of Public Documents, Washington, D. C.

3. Schultze, Teaching of Secondary Mathematics, The Macmillan Company.

4. Young, The Teaching of Mathematics, Longmans, Green & Company.

5. The Mathematics Teacher (Monthly Publication), 103 Avondale Place, Syracuse, N. Y.

6. Sykes Comstock Algebra and Geometry Manuals, Rand, McNally and Company, 536 Clark Street, Chicago, Ill.

SCIENCE:

Objectives
and Aim

General Statements: Science instruction is especially valuable in bringing about a realization of at least the following objectives of secondary education: health, worthy home membership, vocation, citizenship, the worthy use of leisure, and ethical character. For a full discussion of these values and other helpful suggestions bearing upon the administration and teaching of science in the high school, principals and teachers are referred to the Report of the Commission on the Reorganization of Science in Secondary Schools, Bulletin, 1920, No. 26. The general aim of high school science instruction may be stated as follows: "To give acquaintance with the natural world to the end of utilizing its materials and forces in the interest of human life." *

Authorized
Courses

The courses in Natural and Physical Sciences which are authorized by the State Board are:

General Science
Civic Science in the Home
Civic Science in the Community
Geography
Biology
Chemistry
Physics.

Classifi-
cation

While some practical demonstration work is essential to successful instruction in all sciences, the four sciences named first above are not in a strict sense of the term laboratory sciences. These are information courses which REQUIRE laboratory illustrations, but they contribute little to scientific method.

Laboratory
Equipment

None of the courses in science should be given without laboratory equipment suggested in the Science Pamphlet approved by the State Department of Education. This pamphlet also makes helpful suggestions as to notebook work, and books and magazines to read. Pages 19-22 of Reorganization of Science in Secondary Schools give the following general helpful suggestions:

Laboratory
Procedure

"The fact that laboratory work in general has not accomplished the results expected indicates the needs for reorganization of the method and content of laboratory work. A few common causes of disappointment are:

*Ohio High School Standards, Page 85.

“(1) Experiments are too frequently devised to check up and prove generalizations or laws the truth of which the pupil already perceives.

“(2) Experiments often repeat work described in the text in such a way that the outcome is uninteresting and of little value.

“(3) The data collected in many experiments are an end in themselves. There is no further use for them, and hence they have no significance for the pupil. Such ‘busy work’ serves no worthy purpose.

“(4) Many experiments are too minutely quantitative and call for refinements beyond the need or appreciation of secondary school pupils.

“Too frequently the laboratory and class room, sometimes improperly called ‘lecture room,’ are separate not only physically but intellectually.

“The laboratory should be a place where the pupil puts questions to nature, observes accurately, and deduces conclusions logically, not a place where directions are followed blindly and meaningless results obtained. The value of individual laboratory work has been seriously injured by requiring each pupil to do exactly the same experiment as every other pupil and do it in as nearly the same time and same way as possible. The spirit of the project method should vitalize the experimental work. There will always be some pupils who should modify the work to meet their special needs or interests. Such differentiation should be encouraged and lists of alternative work *should* be available to utilize individual interests and inclinations.

“Improvement of laboratory practice will result in less cumbersome forms of note taking and of notebook making. The experiment is not designed for the sake of a notebook record. A summary of results which can be used in interpreting the work done should be made and pupils should be allowed much freedom in the precise manner in which the record is made. They should record importance and significant facts, and the record should be clear and complete.

That is, the laboratory is a 'work place,' and records should be simple and direct accounts of the real and vital work that has been done.

"The adoption of the problem-project-topic method of science teaching will lead to a considerable change in the purpose and use of the recitation period. The 'hearing of lessons,' memoriter repetition of facts and principles gleaned from the textbook, the more or less discontinuous dialogues between teacher and individual pupil should give place to a real class discussion in which all take an active part in contributing, organizing, and using the information dealt with. In such discussions the teacher serves to direct, stimulate, and advise. There should be a maximum opportunity for self-expression in the immediate problem.

"In the recitation period the skillful teacher will develop and arouse interest, furnish the necessary background, and direct the class in its search for answers to a vital problem. In the development of such work the demonstration experiment plays an important part. Such experiments need not be spectacular and sensational, but the unexpected may well be utilized to arouse interest and raise questions that the teacher wants raised as fundamental to the initiation of a class problem. In the over-emphasis on individual laboratory work, the value of demonstration experiments has been minimized. Such demonstrations, besides being interest provoking, have many of the merits of individual efforts without the confusion due to poor manipulation or the failure to observe the most important aspects of the experiment. These may serve the class as examples of the proper way of working, of manipulating apparatus, of noting results, and of drawing inferences. Pupils should be encouraged to assist in performing demonstration experiments.

"The recitation is often the center from which other class activities radiate. It focuses the work done in the laboratory, at home, in the library, and in excursions. To it all contributions are brought and offered for the consideration of the entire class. The need of textbooks is constant but usually no single textbook can serve for all the needs of an actively working class. A better plan often is to provide

several copies of the more important texts and a number of reference books to which assignment may be made. It is extremely important that such assignments should be definite and clear to the pupil. Few things are more discouraging to the pupil or more destructive of his interest than to be given hazy assignments, and to feel that neither he nor the teacher knows exactly what is expected.

“It is not to be supposed that all pupils will be equally interested in a given topic, but if the interest of the majority cannot be aroused the validity of the topic should be examined. On the other hand individuals who have little interest or in whom no interest can be aroused, or those who have a very special interest, may often be encouraged to pursue individual problems of their own and to report their work to the whole class. Such problems encourage initiative and individual responsibility. The results of such work should be interesting to the class as a whole, and reports to the class by all pupils should be a regular part of recitation work. All pupils should be encouraged to undertake some individual problems of their own choosing.

Classroom
Procedure

“At many points in the above discussion the importance of cooperation between pupils and teacher has been suggested. It is vital to success in teaching, and especially in teaching by the problem method. How true it is that in most classes we find the teacher alone active, the class passive, the teacher dominant and aggressive, the class repressed, and attentive in only a receptive, not in a cooperative sense. The responsibility for this rests squarely upon the teachers whose methods have resulted in this type of practice.

Cooperation

“Although implied in several preceding statements, the need of home and community cooperation with the science work of the school should be specifically mentioned. Indeed, the kind of science teaching for which this whole report argues cannot be developed except through constant use of the manifestations of science in the work in which men and women are regularly engaged. It will appear later in the outlines of courses that science in secondary schools finds its proper basis in personal, home and community life and needs. Therefore when teachers and pupils ask to visit a

farm, orchard, a shop, a flour mill, saw mill, or manufacturing plant, the business men concerned should be informed of the ways in which these visits contribute to the courses in science, to the end that they may understand that they are helping in the work of education. Also, it may properly be the function of the teacher and the class to collect desired information or conduct experiments which are related to the business concerned, and are desired by those engaged in this business.

“Any device, plan, or method that will build up helpful cooperation between the home, school, and the community should be encouraged. Among the topics that call for just this kind of cooperation are the following: Home gardens; community extermination of flies and mosquitoes; insects injurious to shade trees and agriculture; protection and feeding of useful birds; care of the water supply; protection from sewerage contamination; community cleanliness; development and care of public parks; health in local industrial plants; and any other topics which inhere in or arise from the elementary study of general science, biology, chemistry, and physics.”

Science
Constants

From the standpoint of the welfare of society, it is not important that a relatively large number of individuals be thoroughly acquainted with the science of Chemistry and Physics. If a relatively small number of specialists have this accurate and detailed knowledge, these can adequately serve society's needs. It is important, however, that every individual be acquainted with the natural world to a sufficient extent to utilize its materials and forces in the interest of human life. A proper study of general science and biology will so acquaint a pupil with his natural environment that he will be able to understand and interpret nature's materials and forces in a general way for his own and society's good. In short, all high school pupils should be required to study general science* and biology; not all pupils should be required to study chemistry or physics. Only the larger, better organized high schools which can purchase a minimum of four

*A small high school which cannot afford to buy more than \$50.00 worth of equipment and employ a trained science teacher should use Civic Science in the Home and Civic Science in the Community in place of General Science and Biology.

or five hundred dollars worth of laboratory equipment and employ teachers with special and adequate science training should attempt to offer courses in chemistry and physics, and pupils should be allowed some choice as to whether or not they take these courses.

The science sequence recommended by the Committee on the Reorganization of Science is:

General Science

Biology

Chemistry

Physics.

Science
Sequence

General Science or Civic Science in the Home should be required of all eighth grade pupils. The two Civic Sciences (either or both) should be taught in only the small schools which are not in a position to spend more than \$50.00 for apparatus for offering the eighth and ninth grade science courses, and which have not enough high school teachers to permit double or hour periods to be devoted to science instruction. While the two Civic Sciences are excellent texts, neither of them offers as full and as well organized material for a first year course, as Caldwell and Eikenberry's General Science offers.

CIVIC SCIENCES:

While Civic Science in the Home is well adapted for use in rural high schools and high schools in communities of 2,000 population or less, Civic Science in the Community is better adapted for use in high schools located in industrial centers. Where either or both of the Civic Sciences are offered, if a few experiments which require commercial electricity or gas are omitted, the equipment described in the Science Pamphlet under Civic Science and which costs about fifty dollars will be a satisfactory minimum for either text or both texts either for demonstration experiments by the instructor or by small groups of the class. If daily forty or forty-five minute recitations are devoted to instruction in either of these sciences a credit of .7 of a unit will be given for the completion of either, provided all experiments except those requiring commercial electricity and gas are performed. The method suggestions under General Science apply to the Civic Sciences also.

Where

Apparatus
Necessary

GENERAL SCIENCE :

Credit

Apparatus
Necessary

Notes

Length of
Periods

Topics

In all high schools which have more than four full-time teachers, General Science should be required of all eighth grade pupils. If a credit unit is earned for a school year of work in General Science, there must be a minimum of 280 minutes a week for thirty-six weeks devoted to instruction in General Science; all of the sixty-eight problems given in the Caldwell, Eikenberry, Glenn Elements of General Science Laboratory Manual must be worked out by each class; notebooks must be kept; and sufficient apparatus for performing all experiments indicated in the manual must be made available. In a high school where there is adequate chemistry and physics apparatus, it will be necessary to buy very little special General Science apparatus. In the appendix of the manual and in the pamphlet giving laboratory lists suggested by the State Department of Education, all apparatus for performing all experiments given in the adopted text is listed. To buy all of this apparatus from laboratory supply companies will cost about \$250.00. If the teacher is resourceful and will use material which may be secured from the school, home, industrial, commercial, and natural environment, and will assign as projects the making of home-made apparatus, the apparatus which must be bought from a laboratory supply company may be reduced to a minimum of about \$55.00. This minimum list is given in the State list, and is followed by a complete list. It must not be overlooked that all sixty-eight problems must be solved and apparatus for their solution must be made available if full credit is to be given.

Brief notes with correct diagrams should be kept in a special notebook by each pupil. Occasionally a more extended written report will be necessary.

Sixty-minute laboratory periods are usually more satisfactory than longer ones for eighth grade pupils. While three forty-minute and two eighty-minute periods devoted to General Science instruction weekly will be accepted, five sixty-minute periods are recommended.

The topic or problem or project method of instruction in General Science is recommended. In organizing teaching

material, the topic should be the large unit to which many specific pieces of work are related.

A combination of class presentations of out-of-school experiences, of individual projects or problems, and of teacher-and-pupil demonstrations is desirable. Desk demonstrations by the teacher or by selected groups of pupils constitute a satisfactory way in which to present an experiment to the class for observation.

Magazine articles which deal with current use of science and which appear in such magazines as the Popular Science Monthly and the Scientific American should be used. Reference books on science should be available and should be used. Many charts, maps and catalogs, which constitute valuable teaching material and which may be had for the asking, may be secured from commercial and industrial firms and other sources. References should be specific.

References

Well planned and directed excursions are valuable teaching aids if their results are used later.

Excursions

Every general science pupil should own and use the Elements of General Science Laboratory Problems, list price 72 cents. The use of this manual is absolutely essential to securing satisfactory results in general science instruction. At the beginning of each chapter of the adopted text in general science will be found "Questions for Discussion," an intelligent use of which will greatly aid the teacher in her instruction.

Manual

BIOLOGY:

In all high schools with more than four full-time teachers Biology should be required of all ninth grade pupils. In smaller high schools one of the Civic Sciences may be substituted.

General Statement

The specific aims of high school Biology instruction should be:

"(1) The World War has emphasized health as a basic end of education. Since much of biology deals directly with problems of health, the course in biology must accept efficient health instruction as one of its chief and specific ends.

"(2) The biological sciences should develop the pupil's purposeful interest in the life of his environment by giving

Aims

a first-hand acquaintance with plant and animal neighbors.

“(3) They should emphasize some of the most important applications of biological science to human activities and to general and individual human welfare, and especially should familiarize the pupil with the structure and functions of his own body, to the end that he may know why he must live healthfully in order to live happily and usefully.

“(4) They should train the pupil to observe life phenomena accurately and to form logical conclusions through the solution of problems and through projects essential to the productive work of agriculture, gardening, etc.

“(5) They should enrich the life of the pupil through the aesthetic appeal of plants and animals studied, to the end that he may appreciate and enjoy nature.

“(6) They should demonstrate to the pupil the value of intensive study of biological science as a means through which scientific progress is attained. In view of what science has meant to our present day civilization and in view of the measure in which the methods and results of scientific investigation are today reflected in intelligent thought and intelligent action, the need of the life sciences in the education of modern citizens cannot be ignored.”*

Methods

Some suggestions as to the method of procedure in biology instruction are:

“Observations, projects, experiments, excursions, individual reports upon significant topics, textbook assignments, quizzes, and conferences offer a rich and varied choice of methods of work. Each teacher should use the methods best adapted to his students and to the environment of the school in which he is teaching. Biology lends itself readily to the topic-project-problem method of teaching, since centralizing themes are abundant.

“In field or museum excursions the teacher should know in advance the material available and the use to be made of it. Field trips are often merely out-of-door excursions. They should be definite and must be used in later work.

“Laboratory work should be planned so carefully that time is not wasted in detailed microscopic work, in experiments which cannot be understood, and in elaborate draw-

*Pages 30-31, Bulletin, 1920, No. 26.

ings to keep the children occupied until the end of the period. Information should be freely and interestingly given by the teacher to stimulate the student to seek more knowledge at first-hand. Laboratory work should usually precede textbook assignments or library references, but should follow when very difficult experiments are to be undertaken. Since most high school students do not know how to use books effectively, these assignments and references should be very definite. A rich fund of collateral reading regarding plants and animals should always be available.

“Experiments, results, conclusions, observations and drawings should be accurately recorded. Neatness in these records is desirable, but this should not be exalted above thinking and understanding. Careful labeling of drawings is important; careless spelling and ungrammatical sentences should not be tolerated.

“The laboratory method in science was such an emancipation from the old-time bookish slavery of prelaboratory days that many teachers have been inclined to overdo it and to subject themselves to a new slavery. It should never be forgotten that the laboratory is merely a means to an end. The dominant aim in all laboratory instruction should be to develop a consistent chain of significant ideas to which the laboratory may serve to give concrete experience and instruction. The primary question is not what plant or animal types may be taken up in the laboratory, but what ideas may best be developed in the laboratory.

“Too often the study of plant or animal takes the easiest rather than the most illuminating path. It is easy, for instance, particularly with a large class of restless pupils who apparently need to be kept in a condition of uniform occupation, to kill a supply of plants or animals, preferably as nearly alike as possible, and set the pupils to work drawing the remains. This method is often supplemented by a series of questions designed to keep the students busy a while longer. These methods are usually unprofitable.

“The ideal laboratory is only a reasonably good substitute for out-of-doors. Any course in biology, when confined within four walls wholly, even if these walls be those of a modern, well-equipped laboratory, is in some measure a fail-

ure. Living things, to be appreciated and interpreted correctly, must be seen and studied alive, if possible in the open, where they will be encountered in life. The study of a plant or animal in the place in which it lives successfully is just as important as the study of its shape or function. Experience has shown that young students usually lose enthusiasm for biology study if they constantly work with preserved materials. In general, it is wise to study plant and animal material common in the environment. Right mental processes of observation and reasoning are best developed in connection with those real biological situations which are encountered in ordinary affairs and in ordinary needs.'''*

Methods

The State adopted text in biology is in accord with these aims and suggestions as to method.

Manual

No biology class will do satisfactory work without the Biology Manual. Each pupil in biology should own and use his own Biology Manual, list price sixty cents. This manual is published by Allyn and Bacon.

Notebooks

Individual notebooks records should be kept by each pupil and should cover laboratory studies and reports of field trips. This notebook should contain at the end of the year from twenty-five to thirty accurately drawn and labeled plates.

Five sixty-minute periods or three forty-five and two ninety-minute periods a week devoted to biology instruction throughout a thirty-six weeks' school year will be required of schools which earn a credit unit in biology. Pupils in these schools will be required to keep notebooks and to do laboratory work as indicated by the manual.

Apparatus

For the instructor to perform necessary demonstration experiments and to provide proper teaching material, all of the apparatus named in the Science Apparatus Pamphlet, except microscope FF8, price \$128.50, will be needed. This includes all apparatus included under required, additional recommended, and chemical. This apparatus will cost about \$200.00. To provide each two biology pupils with a table and necessary individual apparatus for performing all experiments indicated would cost for a class of twenty pupils more than a thousand dollars. While this is desirable, it will not be required for a credit unit. If the apparatus listed in

Credit

the pamphlet, omitting the FF8 microscope, is provided, a credit unit will be allowed, provided other requirements are met.

GEOGRAPHY:

Physical-Economic-Regional Geography, by Chamberlain, is recommended for ninth grade pupils taking the General Curriculum in four-year high schools, and for tenth grade pupils taking the General Curriculum in three-year high schools. In this book Physical Geography is presented as the necessary foundation. The work is fully humanized and many points which are presented in the ordinary course in Physical Geography are omitted. In this course the pupil should be led to study geographic forms and processes not as things and conditions apart from human affairs, but rather in their relations to the life of man. Through a study of the Economic section, pupils should be led to an understanding of industrial and commercial conditions as applied to world commerce. In the Regional Section an intensive study of geography of the United States should be given. If five periods a week for thirty-six weeks are devoted to instruction in this course, a credit unit will be given if the text is completed. This text is published by J. B. Lippincott, Philadelphia, Pa.

Geography

CHEMISTRY:

When both chemistry and physics are offered in a high school, the chemistry should precede the physics. Chemistry should not be required of all high school pupils. It is suggested as an elective study in the tenth grade of General and Vocational four-year curriculums. Only schools which are in a position to provide adequate equipment, a competent teacher, and to devote a minimum of three hundred minutes a week to instruction in chemistry should offer it. The author of the adopted text recommends that each pupil perform at least forty experiments. Thirty-five experiments constitute a minimum for a credit unit. These thirty-five which are designated by the author are here given by number: 1, 2, 3, 4, 5, 7, 8, 10, 12, 15, 16, 17, 18, 19, 21, 22, 25, 33, 34, 35, 37, 39, 40, 46, 48, 49, 52, 58, 59,

Minimum
Experiments

* Pages 34-35, Bulletin, 1920, No. 26.

60, 61, 68, 69, 72, 73, and 74. For suggestions as to laboratory tables, equipment, and apparatus, principals are referred to the Science Apparatus pamphlet. For a chemistry class of twenty pupils the cost of apparatus and materials will be as follows:

Individual apparatus (one set for each	
two pupils)	\$ 13.57
General apparatus for twenty pupils	75.51
Minimum materials for thirty-five experiments	87.53
Teachers' demonstration apparatus needed	
(not required)	24.46

Total	\$323.20
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Three hundred minutes a week devoted to chemistry instruction is required for a full unit. This may be given in five sixty-minute periods or in three forty-five minute and two ninety-minute periods. The five sixty-minute periods are recommended.

To sum up credit unit requirements in chemistry: Performance of thirty-five designated experiments, three hundred minutes per week devoted to instruction, adequate laboratory apparatus and equipment for the above named experiments.

All teachers of Practical Chemistry should own and use "Teacher's Manual for Practical Chemistry."

Some suggestions as to aims of and methods in high school chemistry courses are given below:

"1. To give an understanding of the significance and importance of chemistry in our national life. The services of chemistry to industry, to medicine, to home life, to agriculture, and to the welfare of the nation, should be understood in an elementary way.

"2. To develop those specific interests, habits, and abilities to which all science study should contribute.

"The powers of observation, discrimination, interpretation, and deduction are constantly called for in chemistry and are so used in this subject as to require a high type of abstract thinking. The principles and generalizations of chemistry are often difficult. For this reason chemistry should occur in the third or fourth year of the high school.

“3. To build upon the earlier science courses, and knit together previous science work by supplying knowledge fundamental to all science. Coming after at least a year of general science, and usually also a year of biological science, the work in chemistry should further use these sciences. It should furnish a new viewpoint for the organization of science materials, and develop wider and more satisfactory unifying and controlling principles. By this means the desirable element of continuity in the science course will be secured.

“4 To give information of definite service to home and daily life. This aim has been the chief influence in reorganizing high school chemistry courses, and will undoubtedly produce further changes. The criterion of usefulness, as a basis for the selection of subject matter, should not be limited to the immediately useful or practical in a narrow sense, but should be so interpreted as to include all topics which make for a better understanding of, and a keener insight into, the conditions, institutions, and demands of modern life.

Aims

“5. To help pupils to discover whether they have aptitudes for further work in pure or applied science, and to induce pupils having such aptitudes to enter the university or technical school, there to continue their science studies.

“Chemistry Methods:

“Some motive, some compelling desire to know, must actuate the pupil in any study which is really educative. Progress in chemistry, therefore, is dependent upon a specific purpose, a conscious need to learn the facts and their underlying causes or explanation. The educational value of any problem depends upon the degree to which the pupil makes it his own and identifies himself with it, rather than upon its concreteness, or the useful applications involved, or the familiar associations connecting it with other problems, important as these considerations are. The basis for organizing a course in chemistry should lie in the changing character of the pupil's interest and the increased intensity of his needs as a result of his growing abilities and of his increased power to direct and use them. A topic in chemistry which would have seemed abstruse and uninteresting a year or even a few months earlier may suddenly become

General
Methods

a real problem to the pupil. Such questions as what the constitution of things really is, what properties the atoms possess, or why the volumes of gases have such simple relations to one another, may become problems of real significance to the pupil. Ultimate causes and reasons appeal to the adolescent pupil. Problems having to do with home, farm, local industries, the civic and the national welfare, are limited only by the time and energy available for their pursuit.

“The relation between class and laboratory work is a most important problem for the chemistry teacher. Unfortunately, theory and practice have not been properly related. Some of the reasons for this situation are:

(a) It is difficult to correlate recitation and experiment. One lags behind the other. The remedy is a greater flexibility in the program, so that the time may be used for either purpose as needed. There is a growing tendency to make all periods of a uniform, sixty-minute length instead of forty or forty-five minutes on some days and eighty and ninety minutes on other days. This change helps to make possible a closer correlation between experiments and the discussion of them.

(b) Experiments often fail of their object because of insufficient directions, failure to provide needful data, or lack of a definite and clear purpose. This needful information must be supplied, but in such a way as to stimulate interest and raise questions to be answered by the experiment itself. Some teachers prefer to take the first few minutes of each laboratory exercise in talking over the work, suggesting important questions, pointing out difficulties, and giving necessary cautions. It might be well to embody more of the information usually supplied by the text in the laboratory directions themselves, so that they would be thought-producing and stimulating rather than simple directions for manipulation and observation.

(c) Too many experiments involve repetition of work described in the text or have no outcome beyond the mere doing and writing in the notebook. Unless the experiments contribute to the recitations and provide data or information which is used, they are largely a waste of time.

“Laboratory experiments, to accomplish their purpose, must concern a problem or a question which the pupil seeks to answer because he is interested in doing so. The titles of experiments can often be worded so that they become suggestive by stating them in problem or question form. For example, instead of the title ‘Mordant dyeing,’ a better one would be, ‘Why are mordants used in dyeing?’ Or in place of ‘Equivalent weight of magnesium,’ substitute ‘How much magnesium is needed to produce a gram of hydrogen?’ Or, for ‘Analysis of ammonia’ substitute, ‘What is the most economical brand of household ammonia to purchase?’ The mere rewording of a title itself is not enough. The question itself must be a vital one to the pupil either through his own independent thought or as a result of the stimulating influence of the class discussion.

“Flexibility in the keeping of notebooks is desirable, provided that the essential facts and conclusions are always included. The notes should usually include a clear statement of the problem in hand; a description of the method of procedure, making use of a diagram of such apparatus as may have been used; and a statement of results and conclusions, with answers to any specific questions which have arisen. If the pupil’s notes cover this ground, they should be accepted, and he should be encouraged to work out any plan of his own for the improvement of his notebook. To require all to use exactly the same plan may make the checking of notebooks more easy and their appearance more satisfactory, but it stifles the pupil’s originality and prevents him from discovering and correcting his own faults in this direction.

“The notebook has often been a fetish with chemistry teachers, and time has been demanded for making a record which, while beautiful in appearance and completeness, is yet full of needless repetition and useless detail. The notebook should not destroy the interest attached to an experiment, for the experiment is not for the notebook but for the pupils’ clearer understanding of important chemical facts. Only when properly used will the notebook enhance the value of laboratory work.

“The teacher in the laboratory should not set up apparatus, weigh out materials, or attend to other purely

manual matters, which in most cases should be done by the pupils. The teacher should see that pupils are trained to observe accurately, to draw correct inferences, to relate their conclusions to the facts of previous experience in and out of school, and to find the answers to questions and problems brought out.

“It is proper that the teacher should perform laboratory demonstrations that are too difficult, too costly in materials, or too long for student assignment. These should be done with model technique, for the pupils will imitate the teacher’s methods. They should be recorded in the student’s laboratory notebook just as any other experiment, but with the notation ‘performed by the instructor.’

“(3) Aids to the chemistry teachers—(a) Reference books and magazines. A part of the requisite equipment of every chemistry department is a well chosen set of reference books, available and in constant use. Each pupil will need a textbook as chief reference book, but he should find it necessary to use additional books. There should be provided duplicate copies of the better textbooks, other books on special subjects, articles, newspaper clippings, etc. These books are necessary in order that the pupil may investigate all the questions that arise. He will profit by the training which comes from learning how to find the answers to his questions from many sources of information. These books should provide entertaining reading by which the pupil’s interest in things chemical may be stimulated and developed.

“(b) Individual topics and reports. The study of special topics and reports upon them by individual members should be a regular feature of the class work. Pupils should be encouraged along the line of their special interests, and lists of topics should be suggested by the teacher from time to time. By this plan individual initiative and ability may be given encouragement and the whole class stimulated.

“(c) Optional experiments. The pupil should be given encouragement to bring in materials to test in various ways and, whenever time permits, to perform additional experiments, the results of which may be reported to the class. In the chemistry laboratory it is not necessary or desirable that all pupils be always at work on the same experiment. Even if the experiment is essentially the same, a variety

of materials may often be used, and each pupil may contribute to the general result. For example, if colored cotton cloth is to be bleached by chloride of lime, let the pupils bring in samples from home so that a variety of colors may be tried out; or, if the presence of coal-tar dyes is to be tested in candy or food products, each pupil should be responsible for his own materials. In this way the work of the class will have a breadth and scope which will make the results more significant.

“(d) The review. In chemistry the number of detailed facts is so great, and the application of its principles so wide, that from time to time a definite plan for insuring proper organization of ideas is needed. These need not be formal reviews and tests, though such have their place, but they should always be exact and comprehensive. Quizzes should frequently follow excursions or a series of laboratory experiments upon some central topic of study. These should be conducted in such a way as to lead pupils to organize knowledge for themselves rather than to force upon them a classification of the material that does not develop from their own work.

“(e) Excursions. Many topics in chemistry should be initiated or supplemented by an excursion to a factory or industrial plant where the operations may be viewed at first hand. If such excursions are to be really profitable, there must be a very definite plan covering the things to be seen. The first recitation after such an excursion should be devoted to answering questions suggested by what has been seen and to defining further studies based upon these observations. The great value of the excursion lies in the opportunity to give the pupil a vivid conception of the practicability of chemical knowledge and to make him see that there is a definite relation between the test tubes and beakers of the laboratory and the vats, concentrators, and furnaces of the factory.

Laboratory
Methods

“(f) Science clubs. Whenever the number of students taking chemistry is sufficient to warrant the formation of a chemical club, this is desirable. The members of the chemistry class should be encouraged to join or organize a science club and to make it an attractive feature of the school life. In small schools a science section should be a part

of a literary or debating society, thus widening the interests and opportunity for the exercise of individual interest and served by such an organization. Such a club provides motive effort, and the interest of the whole school may be extended through it.”*

PHYSICS:

General
Statement

Where both chemistry and physics are offered in a high school physics should follow chemistry. It should not be required of all pupils, but is suggested as an elective study in the eleventh grade of the General and Vocational curriculums of four-year high schools. Only schools that are in position to employ a competent physics teacher, devote three hundred minutes a week to physics instruction, and provide suitable laboratory space and apparatus should offer a course in physics. The performance of a minimum of thirty experiments as indicated in Apparatus pamphlet is required for a credit unit in physics. Notebooks should be kept. It will cost more than two hundred dollars to provide adequate apparatus for physics courses. Suggestions as to needed apparatus are given in the Science Apparatus pamphlet. Teachers of physics should own and use the Teacher's Manual to accompany Black and Davis' Practical Physics. Three hundred minutes per week devoted to physics instruction will be required for a credit unit. Either five sixty-minute or three single and two double periods are acceptable. Five sixty-minute periods will probably prove more satisfactory. To sum up, the requirements for a credit unit in physics are: Perform a minimum of thirty experiments with adequate apparatus, devote three hundred minutes a week to physics instruction, keep notebooks.

Suggestions as to aims of and methods in physics instruction follow:

“Physics, in common with the other science courses in secondary education, should be directed so far as possible to the realization of the seven main objectives of education defined by the Commission on the Reorganization of Secondary Education to be: Health, command of fundamental processes, worthy home membership, vocation, citizenship, worthy use of leisure, and ethical character. To realize these ob-

*Pages 36-41, Bulletin, 1920, No. 26.

jectives, education must develop certain specific interests, ideals, habits, and powers, as well as an essential body of knowledge.

“Among the habits and abilities which should be developed in all science teaching and which should be emphasized in physics instruction, the following may be enumerated: Aims

“(1) Observing accurately significant facts and phenomena, and at the same time neglecting distractions and details that have no direct relation to the problem in hand.

“(2) Developing a methodical plan of attack before beginning an experiment or set of observations.

“(3) Using eyes, ears, and hands before consulting books, when knowledge of phenomena is sought.

“(4) Maintaining system, order, and neatness in the arrangement of apparatus and appliances for the observational and experimental work.

“(5) Using care and intelligence in the manipulation of tools and apparatus, endeavoring to acquire a good technique.

“(6) Making measurements where quantitative knowledge is required, always carefully, intelligently, and as accurately as is demanded by the nature of the knowledge sought, but not more so.

“(7) Making and recording calculations accurately and rapidly, using practical aids in computation such as logarithms, multiplication tables, and the slide rule.

“(8) Maintaining accuracy and methodical procedure in arranging and tabulating the data obtained from experiments and observations.

“Physics must teach its pupils to consider common physical phenomena carefully and to interpret and classify observations, to the end that the knowledge gained may become orderly in arrangement. For example, if a flamelike luminosity is observed, is it due to combustion of gases, or to incandescence caused by the passage of an electric current, or to electro-static discharge, or to phosphorescence? When we seek to explain it we are really referring it to its proper class and attributing to it the properties that we know belong to others of the same class. We are trying to record, predict, or indicate its properties by placing it first in a large class, then in a smaller class within the larger, and so

on, until we get it into the smallest class we know. We then know something about its causes and effects because we know it to be like others in that class whose properties are already familiar. By practice in making such interpretations, certain habits, methods, and ideals as to interpretation may be developed.

Methods

“When a project is adopted by the class, initiative on the part of the class should be encouraged in the choice of methods, under the guidance of the teacher. The socialized recitation is of special importance in connection with the class project.

Correlation

“The three principal methods in use during the past ten or fifteen years are the recitation method, the class-demonstration method, and the laboratory method. Theoretically, these methods were to have been closely connected in the treatment of a given portion of the subject matter; but this desirable intimate connection or correlation has not been generally maintained. The laboratory lessons often bear very little direct relation to the recitations and class demonstrations. There has been too little experimenting by the teacher or by pupils before the class.

Unit of Instruction

“The unit of instruction, instead of consisting of certain sections or pages from the textbook, or of a formal laboratory exercise, should consist of a definite question, proposition, problem, or project, set up by the class or by the teacher. Such a problem demands for its solution recalling facts already known, acquiring new information, formulating and testing hypotheses, and reasoning, both inductive and deductive, in order to arrive at correct generalizations and conclusions.

“This method calls for an organization in which information, experimental work, and methods of attack, all are organized with reference to their bearings on the solution of the problem. The recitation, the laboratory lesson, and the class demonstration should not be discrete and unrelated units. Each should have its part in the activities, the gathering of information, and the reasoning essential to the conclusion reached.

Class Conference

“The usual formal recitation should be replaced by a well-balanced combination of group and individual work.

In group work the class conference fosters cooperation, investigation, reciprocal interrogation, open or free for all discussion, and the scientific method of study and problem solving, as opposed to memoriter repetition. In the class conference the teacher selects a topic suggested by one or more of the preceding exercises or assignments. By questions and smaller topic assignments the teacher leads the class to summarize the knowledge previously acquired. Additional knowledge and experiment are necessary for the intelligent understanding of the facts or principle involved in the main topic. The pupils are stimulated to set up hypotheses, to experiment, and to propose methods for testing out the different suggestions. The experiments and tests are made by teacher and pupils at the demonstration table or in the laboratory. At later conferences the final conclusions are reached. They are then applied either in securing other knowledge or in verifying and explaining practical applications as observed in the industries or elsewhere. Initiative should be given full scope in the class conference, but the discussion should be conducted in an orderly and effective manner. It may even be well to train the pupils in parliamentary rules and to insist on observance of those rules in the classroom. The teacher should endeavor to avoid dominating the discussion on the one hand, or letting it become aimless and desultory on the other hand.

“The high school physics laboratory is too often thought of as a place in which to ‘verify laws,’ to ‘fix principles in mind,’ to ‘acquire skill in making measurements,’ or to ‘learn to be accurate observers.’ With a project or problem as the unit of instruction and its solution as the motive for work, the pupil should go to the laboratory to find out by experiment some facts that are essential to the solution of his problem, and that cannot be obtained at first hand by other means. With such a motive he is more nearly in the situation of the real scientist who is working on a problem of original investigation. He is getting real practice in the use of the scientific method. The problem or project should underlie the ‘laboratory exercise.’ For example, instead of aiming ‘to determine the specific gravity of a liquid,’ the pupil may be incited to find out whether the milk de-

Laboratory
Work

livered at his door has probably been watered. This is a project of vital interest to the pupil himself and to his family at home, and it involves finding the specific gravity of milk. Laboratory problems in physics should provide direct and obvious connections between what immediately precedes and follows.

“The following principles with reference to the conduct of the physics laboratory work have become fairly well standardized, and are recommended as important:

“(a) The number of laboratory problems per year should lie somewhere between thirty and fifty, according to the nature of the problems chosen and the circumstances controlling the work. The preference should in general lie with the smaller number, thoroughly and intelligently worked out and reinforced by frequent, subsequent applications so as to insure permanent retention.

“(b) The schedule for work in physics should provide for laboratory periods of from sixty to ninety minutes in length.

“(c) The maximum number of pupils that can be efficiently directed in a physics laboratory division by one teacher is twenty-five; better work can be accomplished when the maximum is eighteen to twenty. If more than twenty-five are working in the laboratory, there should be a competent assistant in addition to the teacher.

“(d) Each pupil should be required to keep a notebook record of all his experiments. The notes should be clear, concise, and systematically arranged, and should be repeatedly utilized in subsequent work.

Notebooks

“Notebooks should contain a statement of the problem; a brief description of the apparatus, materials, and procedure; tabulations of numerical data, with original calculations, when calculations are involved; the conclusions reached; and a brief statement of such precautions and sources of error as it is necessary or profitable to consider. Graphs and drawings should be used as means of expression or interpretation, not as ends in themselves. The use of printed forms, where the pupil only fills in the blanks with figures and words, should be discouraged as tending to inhibit thinking rather than to stimulate it. All notes be-

longing directly to the laboratory work should be recorded in the laboratory at the time of making observations or of doing the work. Original notes should be made with such method and care that copying of notes will be unnecessary.

“In the classroom the demonstration experiment with informal comment and running conference should be frequent, and formal lecturing the exception. The lecture demonstration, however, has its undoubted uses in high school physics. Accounts of new discoveries in physics, demonstrated by experiments and lantern slides, will present a fascinating and effective appeal and furnish strong incentives for study. Accounts of the lives and labors of great physicists, especially of the formative influences and character development that contributed to their greatness, serve to arouse human interest, crystallize ideals, and motivate effort. The help of volunteer pupils should be enlisted in the preparation of the demonstration experiments. The demonstration, when given, should be a model of clear exposition and experimental technic that will challenge admiration, arouse enthusiasm, and stimulate imitation.

Demonstrations

“In nearly every community there are opportunities for making profitable excursions to places in which the principles of physics taught in the school room are applied. The teacher should arrange for excursions at such times as best fit in with the school instruction. Every available physical device in the homes, local stores, shops, factories, waterworks, street railway or electric-lighting power plants, school heating and ventilating plant, newspaper-printing plant, telephone exchange, ice-manufacturing and cold-storage plant should be used for instruction. Mimeographed instructions prepared before an excursion will be of great service. After the excursion the things seen and their bearings on other work should be thoroughly discussed. In a few cases written reports of the excursion should be required, and the best of these should be credited as oral or written compositions in English classes.

Excursions,
Reports

“During the year each pupil should be assigned one or more definite pieces of study to be made from books or papers, the study to be organized for presentation before the class. Assignments should be specific, giving subject,

Clubs

properly delimited, and usually the books or papers to be consulted, with specific citations. There should always be a report in good form made to the teacher, if not to the class.

“The science club, or society, officered and managed by pupils under teacher guidance, may prove a stimulus to science throughout the school and may become an important factor in community life. Physics should join with other sciences in the science clubs of small high schools, but in some large schools a separate physics club may be desirable. Experiments, objects from amateur natural-history collections, reports on scientific books, and articles from magazines, biographical sketches, and also occasional lectures by teachers should compose the programs.” *

Science teachers will find the following references helpful:

References

1. Reorganization of Science in Secondary Schools, U. S. Bureau of Education, Bulletin, 1920, No. 26.
2. Twiss, Principles of Science Teaching, Macmillan Company.
3. Lloyd and Bigelow, The Teaching of Biology, Longmans, Green & Company.
4. Smith and Hall, The Teaching of Chemistry and Physics, Longmans, Green & Company.
5. School Science and Mathematics, \$2.50 per year, 2059 East 72nd Street, Chicago, Ill.

LATIN:

Latin Values

No college in South Carolina requires Latin of pupils who matriculate as candidates for B.S. degrees. Only six (one for men and five for women) colleges in South Carolina require Latin of pupils who matriculate as candidates for A.B. degrees. Consequently, Latin can hardly justify its place in the high school curriculum as a college preparatory subject. If all of the values of Latin study are analyzed, they will fall in three groups, (1) the practical values, the use of Latin in explaining Latin derivations, in spelling, etc. (2) The disciplinary values, the development of the power of careful observation, analysis, reasoning, etc. (3) The cultural values, the insight afforded into the civi-

*Bulletin 1920, No. 26, pages 50-55.

zation of ancient Rome, the development of a feeling for good English, etc. The practice of requiring Latin of all pupils in any grade is of doubtful value. In fact, practice throughout the country indicates that there are some pupils in every grade who should not be required to study Latin. Every principal and school board should determine whether or not Latin will contribute more to the practical, disciplinary, and cultural education of some pupils than other subjects which may be offered instead of Latin. If the decision is in Latin's favor, it should be offered in the school; otherwise, it should not be offered.

When to
Offer Latin

FIRST YEAR LATIN:

Completion of Elementary Latin through Page 241 entitles a pupil to a credit unit in first year Latin. Usually six or eight weeks of the second year of work in Latin is required to complete this amount of work. If the supplementary reading on Pages 243-266 of Elementary Latin is done properly, it may be offered in lieu of Book four of Cæsar. This supplementary reading should prove a helpful introduction to Cæsar.

Credit in
Beginner's
Latin

The Teacher's Manual to accompany Smith's Elementary Latin should be used by every teacher. This manual gives specific help on each lesson. Teachers may secure this manual by having their principals request it of Allyn & Bacon, 611 Rhodes Building, Atlanta, Ga. Each appendix of the text provides useful teaching material which should be utilized.

Manual

The first year of Latin work should give pupils the ability to pronounce accurately and to read with facility and intelligence the Latin text of what has been studied. It should give them such an accurate knowledge of inflection that they will be able, instantly, to recognize forms and their different shades of meaning and conversely to give required forms without hesitation. The first year of Latin should lead the pupil to acquire a working knowledge of the more than 500 words given in the vocabularies of the lessons required for the year, should enable him to understand Latin order, should enable him to master the simpler principles of syntax, and should lead him to give "true English translations." Pupils should be so thoroughly, and constantly, and rigidly, and

Quality

patiently drilled upon the above mentioned requirements that their responses to questions based upon these requirements will come instantly and accurately. This mastery of detail and this exactness of habit cannot be secured without effort. Following are some suggestions that may be of help to the teacher in realizing results:

Method

An accurate knowledge of form and facility in using forms come only through patient drill. Quality as well as quantity counts in first year Latin.

Adopt the Roman method of pronunciation and stick consistently to it.

Study your assignments. Make them of reasonable length, and give definite instructions as to how you wish every lesson prepared. Then see to it that every pupil gives you the preparation.

Require the first four weeks of Latin study to be confined to the class recitation period. During these four weeks, do not allow pupils to take their books home. Supervise and direct their study. Guide them into proper habits of Latin study.

A great deal of the training of the ear should be effected through listening to the reading or speaking of the Latin by the teacher. Much oral practice not only develops and quickens the ear, but vitalizes the work. Require many vigorous oral drill exercises from your pupils.

Give a part of each recitation to a systematic review of work already covered. Make these review drills vigorous and "snappy."

In translating, observe the Latin order. After the rendering according to the order of the Latin words, idiomatic English must be required. Emphasize the importance of the choice of proper words.

Frequently require pupils to write in English easy exercises dictated in Latin by the teacher. Frequently require pupils to translate Latin into English from the teacher's reading of the Latin. Require pupils to memorize suitable passages of Latin.

Smith's Elementary Latin has done much to make Beginner's Latin a live subject. Pages 267-274 give songs that should be committed to memory and sung during the year.

The English Grammar section, Page 323, should be referred to when needed to understand Latin. The pictures and illustrations in the text should be understood and should be referred to when they will be most helpful to the pupil. In each lesson, "What Latin words do the following suggest?" is an exercise that should never be omitted. In each lesson the author has worked out many helpful drills and exercises. All of his notes, suggestions, drills, and specific directions should be used. The author has selected his material so well that the teacher cannot afford to omit any of it.

SECOND YEAR LATIN:

Supplementary Reading, Pages 243-266, of Elementary Latin, and the first three books of Cæsar fulfill the requirements for a credit unit of second year Latin. In some schools some of this work is extended into the first four or six weeks of the third year. Throughout the second year of Latin instruction the work in reading should be closely correlated with a study of Latin grammar and composition. Some suggestions as to method may prove helpful.

Credit
in
Cæsar

Pupils should be required to grasp the meaning of the Latin sentences which they translate. Sentences should be read and understood in the order of the original with full appreciation of the force of each word as it comes. The full meaning of the passage or sentence translated in the manner described above should finally be expressed in clear and natural English.

Method

Study of the vocabulary should be stressed in the ninth grade. This is especially true in regard to principal parts of verbs. About 300 of these should be written in the Latin notebook for special drill. Irregular verb forms should also be stressed.

The teacher should teach her pupils how to prepare their reading lessons in Latin. The subject and verb of the principal clause and of the subordinate clauses, the grouping of words and phrases, and the use of transitional words should be explained before the pupil is expected to prepare his lessons alone.

The Latin should be read aloud throughout the year.

Due attention should be paid to the history of the times studied, and to the geography of the countries studied. Pupils should be required to use the maps in Cæsar for tracing his campaigns.

There should be constant drill on forms, principle of syntax, and careful analysis of sentences taken from the text read. In reading Latin the lesson of the previous day should always be read in review. This may be done by one or two pupils.

THIRD YEAR LATIN :

Six orations of Cicero correlated with Latin Grammar and Composition constitute the third year's work in Latin, which will be credited with one credit unit.

The tenth grade Latin work should be characterized by thorough work in vocabulary, syntax, written translations, study of Cicero's style, Latin prose and sight reading. The teacher should see that pupils grasp the meaning of the Latin and that they render it in true, natural, and idiomatic English.

There will be constant occasion for drill on forms and principles of syntax and careful analysis of sentences occurring in the text. Grammar questions should precede or follow rather than interrupt the translation. To secure fluency and accuracy of translation, there must be constant review of the pages read and careful choice of English words. Frequently the teacher should offer her pupils opportunity for sight translation, but too difficult Latin must not be used for this purpose. The third and fourth orations against Cataline may be read at sight. Quite frequently passages of Latin should be memorized.

FOURTH YEAR LATIN :

The practice of offering a fourth year of Latin in most high schools is of doubtful value. Only pupils who expect to enter Charleston College, Converse College, and Chicora College need it for admission. Fourth year Latin is usually so poorly taught that it has little practical, disciplinary, or cultural value. Usually fourth year Latin classes are so small that the per capita cost of Latin instruction in fourth year is almost prohibitive. Finally, it usually overcrowds the

Third Year
Latin Credit

Method

Value

work of some teachers and the pupils who take it to offer fourth year Latin. Offered under any of the above named handicaps, the value of fourth year Latin courses is questionable. Fourth year Latin should be offered only when conditions favor it and when there is a specific and justifiable demand for it.

Six books of Virgil's *Æneid* constitute the fourth year of Latin work. Vocabulary, syntax, written and sight translations, Greek Mythology, Roman Customs and Religion, the Geography of the Mediterranean, scansion, rhythmical reading of hexameter, and accuracy in expressing the Latin thought should be stressed in fourth year Latin instruction. Some systematic reference work will be necessary to an adequate understanding of this poem, which should be studied as a literary masterpiece. A credit unit will be allowed for the work outlined for this year of Latin study.

Latin teachers will find the reading of *The Classical Journal* helpful. The subscription price is \$2.50 a year. This Journal is published by the University of Chicago Press, 5750 Ellis Ave., Chicago, Ill.

MODERN LANGUAGES:

The State Board of Education authorizes the teaching of French, German and Spanish for two years each in the high schools. A majority of the colleges accept Modern Language in place of Latin as a foreign language requirement for admission. Last session in South Carolina high schools

2200 pupils studied French,
110 pupils studied Spanish,
20 pupils studied German.

Since the colleges prepare more teachers to teach French than other modern languages, it is easier to secure French than Spanish and German teachers. Because of their probable contact and relations with people of Latin America, it would probably prove more practical for South Carolina pupils to study Spanish than to study French. A school that is not in a position to offer two years of a foreign language should offer none.

The aims of a high school modern language course should be to teach (1) a good working vocabulary, (2) to pronounce

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correctly and intelligently, (3) to translate into simple, idiomatic language accurately and fluently, (4) to develop interest in the life, customs, history, and literature of the people who speak the language studied. The essentials of the grammar are to be learned thoroughly with the understanding that grammar is a mere tool, not an end in itself.

Quantity

In a two year modern language course, a standard grammar should be completed and a minimum of from three hundred to four hundred pages of prose read.

French

Probably ten times as many pupils will have a chance to read French occasionally as will have the opportunity of speaking it. For this reason, while oral French should be practiced and a good French accent approached as near as possible, the acquisition of a vocabulary and of a reading knowledge is the primary aim. The commonest words, treating of the home and the school, should be emphasized at first, and the work should be enlivened by the teacher by means of any outside devices which she may desire.

The textbook adopted, Chardenal's Complete French Course, begins with exceedingly simple French and is so carefully graded that it almost teaches itself. This allows ample opportunity for the teacher to devote his energy to oral drill, which abounds throughout the book; and to outside conversational work based upon the practical vocabulary of the text. A thorough foundation will be secured by the carrying out of the assignments as they are given in the book.

In reading the particular edition of L'Abbe Constantin which is adopted, special attention should be devoted to the notes and Review Exercises. The sentences in these exercises may be written at home and brought to class, or some of them may be assigned orally after the reading lesson has been finished. They have been worked out with exceeding care and cover a great many of the difficulties which beginners encounter in their first connected reading.

Credit

For completion of Complete French Course, L'Abbe Constantin, and *Le Voyage de Monsieur Perrichon*, two credit units will be given, provided two full school years are devoted to French instruction. If additional reading material is needed, it may be selected from the adopted readers.

The "Direct Method of Teaching French" is a manual designed especially for use in connection with the beginning

direct grammar, "La Classe en Francaise," by Gourio. Aside from the explanations of the text of the grammar, however, there is in this manual a complete technique concerning the direct explanation of words and a detailed description of the exercises by which they may be fixed in the memory. Since the use of the above French texts are optional, they may be used in schools where the "Direct Method" is preferred. Completion of the grammar and the reading of the equivalent of what has been outlined above for reading will be required for two units if the "Direct Method" is used.

Joynes and Wesselhoeft's German Grammar, consisting of fifty-four lessons, is sufficiently complete for all the grammar work of the high school. Part I, consisting of forty lessons, will cover the first year's work, and the rest of the lessons the second year's work. In the first year's work, only the essential elements are taken up, rapid progress being made by the successive parts of speech and the verb being developed side by side in each lesson. In the second part, a complete account of the various parts of speech is given with particular reference to the extensive correspondence in German and English syntax. There is a total absence of dictation with respect to methods to be used. The exercises in the first part of the lesson contain both reading sections, conversational paragraphs and English sentences for written translation. It will be found practicable to devote in the first year two periods or more, if the time permits, to each of the lessons. The various appendixes treating of word order, word formation and paradigms will permit of this book being used as a reference manual in connection with the second year's reading and composition work.

German
Grammar

Joynes' Shorter German Reader is a reader for beginners composed of fourteen lessons with most serviceable interlinear translation and forty reading selections of familiar prose and easy poems. The text is simple enough to be begun after the first month's work in elementary grammar. Such early reading is especially facilitated by the fact that the first fourteen lessons carry ample annotations, as a set of elementary rules explaining the simple grammatical points necessary for the understanding of the text. The quantity of the work to be assigned in this reader will depend upon the time that can be devoted to reading and upon the corresponding effi-

German
Reader

ciency of the pupil. It will be possible, if the pupils advance rapidly enough, to assign for each lesson not only an entire reading section, but wherever such sections are short, also the corresponding translation exercises based upon these sections, which will be found on pages 161-168, and which cover the first twenty-four lessons. Completion of the grammar and reader in two full years will be worth two credit units. Supplementary reading may be done.

Spanish

Hill's and Ford's First Spanish Course consists of fifty lessons, and is designed for a course of two years in the high school, to be supplemented by a reader or readers. The first year's work consists of Lessons I-XXXVII, inclusive, and the second year's work from XXXVII to the end. In the first year's work only the essentials of grammar are taken up, and in the second year there is a review of the rules of grammar given in Lessons I-XXXVII, and also a treatment of the more important exceptions to these rules. The smaller number of lessons in the second year's work is designed for the purpose of permitting the students to devote a larger number of hours per week to readers and reading texts, as well as to the composition work which is usually begun in the second year. There is also an appendix of 46 pages on the Spanish verb, the study of which will be found to be very serviceable in connection with such composition work. The First Spanish Course is planned to be used in connection with any of the approved methods of Modern Language instruction. For the teacher who favors the Translation Method, there is sufficient material in each lesson for translation both from Spanish to English and from English to Spanish. For the teacher who prefers the Direct Method, there will be found at the end of each lesson a grammatical resume consisting of the rules of the lesson in the Spanish language. Teachers favoring no one method, but ample oral work, will find a section on conversation included in every one of the lessons.

It will be found useful in the first year's work to devote two or three days to each of the earlier lessons. As the pupils progress and, in the second semester of the first year, wish to take up a few hours per week with a reader, Elementary Spanish-American Reader may be begun. For two full school

years devoted to a completion of First Spanish Course and Elementary Spanish-American Reader, two units will be given.

HEALTH:

A complete health program should include all health activities of public schools, viz.:

Complete
Program

(a) A careful health examination which should include:

- (1) Physical examination.
- (2) Mental examination.
- (3) Medical inspection.

(b) A healthful school environment.

(c) A healthful home environment.

(d) Proper physical activities:

- (1) Play space.
- (2) Equipment.
- (3) Kind of exercise.
- (4) Physical director.

(e) Instruction in health facts.

Health examinations are recommended and left to the decision of the local authorities. A healthful school environment has been discussed on pages 14-17 of this manual. The influence of a proper school environment and conferences between parents and teachers can frequently secure a healthful home environment. Proper physical activities are partially provided for on page 32 of this manual.

Health instruction should include:

Health
Instruction

(a) The practical elementary problems which concern health; as, for example, diet, care of the teeth, sleep, exercise, and bathing at school and at home.

(b) The general conditions relating to health, as room temperature, ventilation, dust, school seating, and posture.

(c) The public health problems, like sewerage disposal, milk and water supplies, and general control of infectious diseases.

The course of study provides for very little health instruction. Biology, pages 399 to 520, is devoted to a fine treatment of Human Biology with emphasis upon physiology and hygiene. General science in its treatment of "Bacteria and Other Disease Germs," "Water Supply and Sewerage Disposal," "The Utilization of Food in Animals," "Hygienic

Aspects of Nutrition," devotes 57 pages to a treatment of public health problems and elements of nutrition. As no credit courses can be given for health instruction, the principal must exercise some ingenuity to prevent his pupils leaving high school with faulty health habits. Each pupil should devote at least one fifteen-minute period a week to learning important health facts. Two twenty-minute periods are desirable. Through the use of charts, supplementary reading, and health talks, the principal or teacher should stress the financial, social and moral values of continued good health, which can be secured only by the observance of certain definite laws relating to personal hygiene. For instance, every pupil should know the importance of proper diet as a basis of good health. He should know that a lack of milk may cause bad teeth, weak eyes, faulty posture, and a weakened resistance that makes him an easy prey to tuberculosis and other infectious and contagious diseases. The ill effect of too much or too little exercise, the necessity for proper rest periods, and the importance of securing enough sleep cannot be over-emphasized. Charts showing correct posture should be displayed conspicuously. The results of scientific studies which show improvement of backward children when correct health habits are adopted make splendid subjects for short health talks. The attention of the child and his teachers should be called to popular health articles in current periodicals. Health literature may be secured from such organizations as the American Red Cross and Anti-Tuberculosis Association and distributed to the pupils, and parents and enthusiastic teachers may organize health clubs. No one doubts the necessity for strong, healthy bodies as the proper foundation for strong healthy minds, but we have falsely taken the stand that healthy bodies are accidents of nature and that they may be preserved without any knowledge of how they should be cared for.

Health References

Teachers may secure health charts, pamphlets, and other valuable material related to school health problems from such organizations as the following:

1. Committee on Health Problems of the National Council of Education, 525 West 120th Street, New York City.
2. The American Physical Educational Association, 93 Westford Ave., Springfield, Mass.

3. The Child Health Organization of America, 370 Seventh Ave., New York City.

4. United States Public Health Service, Washington, D. C.

5. The American Physical Education Review, a monthly publication, price \$3.00 per year, should be made available to all high school teachers, Springfield, Mass.

6. Bulletin, 1917, No. 50, Superintendent Public Documents, Washington, D. C.

MANUAL TRAINING OR ARTS:

“Manual training or manual arts should not be confused with vocational training. The aim of each of the above types of work is distinctly different from vocational training. Manual training or Manual arts can be defined as those subjects which give the student an appreciation of the ways and means by which many articles manufactured in the industrial world are constructed; an education through doing. Working with the concrete in order that pupils may more clearly understand the abstract is manual training or manual arts. Vocational training has one specific aim, that of training for the actual doing in industry, and may be defined as that type of training which fits for employment in a gainful occupation. Many subjects other than wood and metal working will find their place in a manual training curriculum, ‘printing, book-binding, textiles, etc.,’ and students in many communities would profit by such manual training instruction. Where wood-working is taught as a manual training subject it should be correlated with both freehand and mechanical drawing. At least one double period each day should be given to manual training work, alternating between shop work and mechanical and freehand drawing. Single periods for shop work are of little, if any, value, as a great deal of time is consumed in getting ready to work and cleaning up before the entering of another class. Such necessary preparation would leave approximately one-half hour for actual work. No prescribed course of study other than a simple outline should be used by the teacher. Encouraging initiative by suggesting the construction of various things for the home or farm, stimulating the power of visualizing, placing the picture upon paper, appreciating

Manual Arts

gracefulness of design, harmony of color, rigidity in construction, and the value of all things that are made by 'the sweat of the brow,' are some of the many reasons why manual training should have its place in the high school curriculum.' '*

General extra-credit courses in Manual Arts may be given. Two ninety-minute periods a week throughout the eighth or ninth grade may be devoted to these courses. An intensive course in manual arts for which a credit unit may be given requires a minimum of five ninety-minute periods a week for thirty-six weeks. For this type of course equipment must be adequate.

VOCATIONAL SUBJECTS:

Bookkeeping

It is not necessary that a school have a regularly organized Vocational Curriculum for bookkeeping to be taught. In fact, bookkeeping is an appropriate subject for a general curriculum. The New Modern Illustrative Bookkeeping stresses principles as well as practices. The course is designed for one year and requires the use of the textbook, four blank books, incoming vouchers, and such business forms as bills, receipts, checks, notes, drafts, invoices, account sales, bills of lading, and lease and contract forms, all of which are published by American Book Company and provided for in the adoption. The course is built upon theory first, practice last. Directions for translations and practice are given in the textbook. In giving this course every transaction and all practice work indicated by the text must be done by every pupil taking the course if credit is given. Legible penmanship, neatness, and accuracy and speed in computations should be required. Pupils should be familiarized with forms of business letters and have some practice in writing and answering telegrams and advertisements. One unit will be given for the completion of the course which will require five periods a week for thirty-six weeks. Eighty or ninety-minute periods should be devoted to bookkeeping. If this is done no home work will be required. The carrying back and forth of the large text and sets is inconvenient to pupils, and often causes important forms to be lost.

*H. B. Adams, State Supervisor of Trade and Industrial Education.

No credit will be given for stenography unless two units of stenography and one unit of typewriting are completed. The Gregg system is recommended. By the end of the first year a speed of 75 words per minute should be attained on practice matter. In the first semester of the second year, much attention should be given to office training and commercial correspondence. By the end of the second year the pupil should attain a speed of ninety words a minute on new matter for five minutes and should be able to transcribe it accurately on the following day.

Stenography

Five forty-minute periods per week for thirty-six weeks constitutes a half unit of work in typewriting. Typewriting with stenography is required. While it is very desirable that pupils who take bookkeeping have the typewriting, it is not required with bookkeeping. To earn credit, work in typewriting must be done on a standard forty-two key double character machine, and the touch system must be used exclusively. Use of the eraser should be prohibited and only a limited number of errors should be accepted in each practice drill. Speed and accuracy in transcribing should be stressed. Systematic study of the devices of the typewriter should be made by each pupil and practice in utilization of these devices should be provided. The various processes of copying, manifolding, and duplicating should be studied.

Typewriting

AGRICULTURE: STATE AND SMITH-HUGHES.*

The teaching of agriculture in the high schools of the State has now been in operation for five years and has become a definite part of the school system. The following are the principal requirements for the work under the Federal Smith-Hughes Law:

1. Each pupil studying agriculture must devote at least ninety minutes of time to it daily.

2. All pupils enrolled in agriculture must carry some sort of supervised practice work under the direction of the agricultural teacher.

Requirements

3. The school must enroll not fewer than twelve pupils in

*Prepared by Verd Peterson, State Supervisor of Agricultural Instruction.

4. A classroom, reference material, and apparatus must be provided for the work.

5. Teachers to do this work must be graduates of a State Agricultural College and should have completed the course in Teacher-Training before they take up the work.

6. Teachers must be employed for twelve months in the year and during the time school is not in session should devote their time to the supervision of the pupils' home projects and to work among the farmers of the community.

7. Agriculture is a regular subject in the high school curriculum, and if a pupil completes a year's work, including the project, he receives one and one-half units of credit up to a total of four units. The agricultural teacher is a regular member of the teaching staff of the school and subject to the regulations for other teachers.

The salaries of agricultural teachers are paid one-half by the Federal government, one-fourth by the State, and one-fourth by the local schools. All salaries must be agreed upon by the local school authorities and the State Department of Education. If for any reason a community cares to pay more than the total salary that can be approved by the State Department, it is permissible, provided that the community pays all the additional part.

STATE AIDED CLASSES:

In order that agriculture may be taught in the smaller high schools, the Legislature has provided for the teaching of agriculture through State Aid. This State Aided work is used as a stepping stone to the Federal Aided work. The chief difference in the two is that in the State Aided work Science is taught along with the Agriculture, and other pupils may be enrolled in the Science.

A double period is given to Agriculture and Science. Graduates of an Agricultural College are desirable for this work but are not required.

All teachers taking up the teaching of State Aided Agriculture must have completed at least one six-weeks' summer school for agricultural teachers before taking up the work. State Aided teachers must attend at least three four-weeks' summer schools in Agriculture in succession.

For the first year a teacher works in a school the school may receive \$20.00 per month aid for agriculture, for the second year for the same teacher, \$25.00, and for the third year \$30.00 per month.

This State Aided work makes it possible for a great many farm boys to receive instruction in Agriculture who could not otherwise receive it.

COURSE OF STUDY:

The subject matter in agriculture should be selected to suit the farming interests of the locality, the pupils to be instructed, and the teaching accommodations available.

Two Year
Course

In many of the schools not more than two years of agriculture can be given to an advantage. In case only two years are given the time should be divided between Plant Production the first year, and Animal Production the second year. Some Cost Accounting and Farm Shop work may be given in each year. The subject matter should be organized on the short-unit course basis and taught according to seasonal sequence.

The first year should be given to a study of the farm crops of the community. The cost accounting necessary for records and an understanding of the project work should be correlated with this year's work wherever convenient.

Three Year
Course

The second year's work should be a study of farm animals. Cost Accounting should be taught to assist in carrying the project work. Some Farm Shop Problems should be correlated with the projects.

In the third year Orchardring and Horticultural subjects should be taught to suit the interests of the community. Cost Accounting and Farm Shop can be correlated with this year's work. Some Farm Management, Farm Mechanics, and Rural Economics may be taught in this year.

In this course the first and second years are about the same as in these years of the three year course.

The third year should be made up mainly of Horticulture with some study of special crops. Cost Accounting for project work and Farm Shop problems may be correlated with this work.

Four Year
Course

Farm Management, Farm Organization, and Farm Mechanics may be taught in the fourth year. The project work

this year should be organized and started when school opens so that it may be completed by the close of school.

SUPERVISED PRACTICE WORK:

All pupils studying agriculture must carry supervised practice work for at least six months and this work should require at least ninety minutes of the pupil's time per day for as many days as the school is in session. The major part of the supervised practice work should run parallel with the subject matter taught. That is, when pupils are studying field crops at school they should be doing their supervised practice work in field crops at home.

The supervised practice may consist of major projects, minor projects, problems, skills.

The major project as stated above is the chief piece of practical work undertaken by the pupil, and should be parallel with the class instruction the year it is undertaken.

The minor project may be a smaller piece of work and may follow up work on last year's class work or may anticipate next year's work. These minor projects may be closely related to the major project. If the major project is growing hogs, then the minor project may be growing corn to feed them.

There are often many problems on the farm that need solution, such as repairing and cleaning up the poultry house and pruning and renovating the family orchard.

There are also many skills the pupils may need to learn, such as running a mower, operating a tractor and operating a cream separator. Each pupil in order to make the supervised practice as rich as possible should undertake a major project, a minor project, and some problems and skills.

The State Supervisors of Agriculture have prepared a uniform supervised practice notebook for the use of the agricultural pupils. These notebooks are of much assistance to the teachers in keeping up their supervision of the practical work.

In order to get high school credit for agriculture a pupil must first complete the supervised practice work. Each

teacher must submit to the State office some time early in the spring a statement of the supervised practice work his pupils are to undertake for the coming year.

After this work has been completed some time during the next school year a final report must be submitted to the State office showing the financial outcome of each pupil's project.

AIMS AND METHODS:

The purpose of the teaching of vocational agriculture is to prepare people to live on and operate farms so as to secure a living out of farming, and at the same time build comfortable country homes and make the country a wholesome place to live.

The
Aim

This aim, of course, affects to some extent the methods used in instruction. Because of the practical nature of agricultural instruction the old formal methods of instruction do not serve very well. There must be equipment suited to teaching of agriculture provided in the school.

The State Department of Education furnishes a suggested list of this equipment.

There must be plenty of reference material in the form of agricultural books, bulletins, farm papers and magazines. The following is a partial list:

Books:

- Soils and Fertilizers, Lyon—*Macmillan*.
- Productive Soils, Weir—*Lippincott*.
- Dairy Farming, Eckles & Warren—*Macmillan*.
- Essentials in Poultry Raising, Kaup—*Johnson*.
- Productive Orchardng, Sears—*Lippincott*.
- Vegetable Growing, Lloyd—*Lippincott*.
- Woodworking for Beginners—*Manual Arts Press*.
- Farm Management, Warren—*Macmillan*.
- Equipment for Farm and Farmstead, Ramsower—*Ginn*.
- Agricultural Engineering, Davidson—*Webb*.
- Agricultural Economics, Boyle—*Lippincott*.

- Field Crops for Cotton Belt, Morgan—*Macmillan*.
 Southern Field Crops, Duggar—*Macmillan*.
 Insect Pests of Farm, Garden and Orchard, Sander-
 son.—*Macmillan*.
 Weeds, Georgia—*Macmillan*.
 Feeds and Feeding—*Henry N. Morrison*.
 Common Diseases of Farm Animals, Craig—*Lippin-*
cott.
 Productive Bee Keeping, Pellett—*Lippincott*.
 Productive Poultry Husbandry, Lewis—*Lippincott*.
 Manual of Fruit Diseases, Hesler & Whetsel—*Mac-*
millan.
 Agricultural Woodworking, Roehl—*Bruce Publishing*
Company.
 Harness Repairing, Roehl—*Bruce Publishing Com-*
pany.
 Farm Shop Work, Brace & Mayne—*American Book*
Company.
 Mechanics of the Household, Keene—*McGraw-Hill*.
 Farm Buildings, Foster & Carter—*Wiley*.

PAPERS:

- The Progressive Farmer, Raleigh, N. C.
 Howard's Dairyman, Fort Atkinson, Wis.
 Country Gentleman—*Curtis Publishing Company,*
Philadelphia, Pa.
 Breeders' Gazette—*Sanders Publishing Company,*
Chicago, Ill.

BULLETINS:

Lists of available bulletins may be secured from the U. S. Department of Agriculture, Washington, D. C., and Clemson College. These bulletins are free for the asking.

In order to make the best use of these references it is best to use some supervised study in the instruction. That pupils may come in contact with concrete things and farm activities the class must take trips to the farms and into the fields. It is often well that the teacher or some other skilled worker demonstrate the different agricultural activities to the class. Laboratory exercises are often necessary in teaching different topics.

One can readily see that the recitation, laboratory, field trip, and supervised study exercises must be used in teaching agriculture.

Schools best suited for teaching agriculture are those that are located in the rural sections or that enroll a large group of boys living on farms.

Wherever agriculture is introduced for the boys it is well to introduce home economics for the girls. Girls may be admitted to the agriculture classes but in most cases this is not altogether desirable.

Schools contemplating putting on agricultural work should write the State Supervisor of Agriculture, State Department of Education, Columbia, for information several months before they contemplate beginning the work.

TRADE AND INDUSTRIAL EDUCATION, SMITH-HUGHES*

All cities with a population of twenty-five thousand or more may organize and operate for all children fourteen years of age or over trade-classes† in any occupation which offers an opportunity for employment. Any trade class meeting the following requirements is eligible for State and Federal aid for three-quarters of the salary of each vocational instructor. The minimum enrollment for each class is ten pupils. Each class must run for thirty-six weeks per year with not less than thirty hours of instruction per week. For each thirty hours of instruction per week, fifteen hours, or fifty per cent., must be spent in actual shop work, ten hours or approximately twenty per cent. of the time must be spent in subjects related to shop work, such as trade mathematics, trade science, trade drawing, etc. The remainder of the time must be spent in nonrelated work, such as English, civics, etc. Each type of instruction given must have all of the necessary shop equipment that should be found in a commercial shop with the necessary blackboards, charts, drawing equipments, etc.

Type of
School

Requirements

*Prepared by H. B. Adams, State Supervisor of Industrial Instruction.

†A trade-class is one in which a group of students attend instruction for six hours a day in any line of endeavor they choose to follow; i.e., carpentry, printing, auto mechanics, machine work, sheet metal work, etc.

These classes might be held in the school or in a shop. In general, the most convenient place is where the necessary equipment is available.

A city or town regardless of population may organize part-time classes* for those entering upon employment or already employed, provided they meet the following requirements:

The minimum enrollment for each class is ten pupils. Each class must run for at least one hundred and forty-four hours during any school year (preferably one hour or more each day for the five days in each week for approximately thirty weeks). If the class wishes to continue beyond the minimum requirement, the State Department of Education will aid them to carry on this work in every way possible. The instruction given in these classes may be anything that will increase the civic or vocational intelligence, or both, of the students. The State and Federal government will financially aid the local community for three-quarters of the salary of each vocational instructor employed, provided that he or she has the necessary qualifications and has been approved by the State Supervisor of Industrial Instruction.

Any type of vocational work that will increase the vocational intelligence of those employed during the day is eligible to Federal Aid to the amount of three-quarters of the salary of each instructor. These classes generally run for ten weeks, two evenings per week of two hours each. For further information about any of this work, address H. B. Adams, State Supervisor of Trade and Industrial Education, State Department of Education, Columbia, S. C.

HOME ECONOMICS: SMITH-HUGHES AND STATE†

Two kinds of home economics courses have been offered, namely:

1. Intensive courses which are full time credit courses, offered as one of the four major courses in the High School curriculum.

*A part-time class is one in which a group of students attend instruction for one or more hours per day out of their regular working hours to further increase their civic or vocational intelligence, or both.

†Prepared by Miss Lillian Hoffman, State Supervisor of Home Economics.

2. General courses which meet two or three times of varying length per week and for which no credit toward State High School diploma may be given.

The intensive home economics course is fostered by the Smith-Hughes Vocational Education Law and funds for its support and development are available to the various schools that fulfill its requirements for this financial support.

In view of the fact that home-making is now recognized as a profession and that all women, no matter what their profession in life, must learn how to achieve an efficient living, the Federal Government, in cooperation with the State, provides some funds for carrying on this work.

In order to participate in the Smith-Hughes economics funds, a school must fulfill the requirements of the law as herein listed:

ALL-DAY SCHOOLS:

1. School must be under public supervision or control.
2. Controlling purpose to fit for the profession of home-making.
3. Instruction less than college grade.
4. Minimum age of admission shall be fourteen years.
5. Character and content of course may be of two kinds as follows:

Require-
ments

In cities of less than 25,000 population, 150 minutes daily may be given to home economics subjects or a minimum of ninety minutes daily to home economics subjects and 60 minutes daily or its equivalent (two ninety-minute and three forty-five-minute periods per week) may be given to related subjects throughout the school year of not less than thirty-two weeks.

Period
Lengths

In cities of more than 25,000 population, 180 minutes daily may be given to home economics subjects or 120 minutes daily to home economics subjects and 60 minutes daily or its equivalent as listed in an earlier part of this paragraph to related subjects, throughout the school year of not less than thirty-six weeks.

Home economics subjects include foods and cookery, textiles and clothing, house planning and furnishing, home nursing with emphasis on maintenance of health, child care, and home management.

Related subjects include general science as applied to the home, physiology, biology, household physics, household chemistry, drawing and design as applied to the household decoration.

6. The Home Economics teacher shall teach the related subjects to the girls of the home economics classes.
7. Further information relative to equipping home economics departments may be secured from State Supervisor of Home Economics.

8. Sufficient plant and equipment will be required to carry on satisfactory work. The amount and cost of equipment will depend upon the size and needs of school. For the average rural high school the equipment will cost about \$400. For the larger high school it will cost more.

The State has had a very small fund available for assistance in purchase of equipment for needy schools. This money is reimbursed to local communities for home economics departments that are in session the full school day for home economics instruction, upon the approval and recommendation of the State Department of Education.

9. A reasonable amount of operating expenses sufficient to secure reasonable standards of work. This operating expense should provide the needs of the foods laboratory which should not be less than 4 cents per student per day.

10. The home economics teacher must be a graduate of a four-year course in teacher-training of home economics or its equivalent, following a standard four-year high school course, and should also present evidence of having had at least two years of successful practical experience in the home.

This teacher training course in home economics must give to home economics subjects from 25 per cent. to 35 per cent. of its time; to related subjects, 20 per cent. to

Subjects
Included

Equipment

Teacher
Training

25 per cent. of its time; to professional subjects, 12 per cent. to 15 per cent. of its time, and to general subjects and electives remainder to make 100 per cent.

This teacher-training course emphasizes student-teaching in home economics and residence in a practice home as two big essential factors in the training of teachers of home economics for Smith-Hughes teaching.

Graduates of this full course will be entitled to a professional Home Economics certificate, which will entitle the holders to teach home economics in any school in this State organized under the Smith-Hughes Act. This certificate may be exchanged in another State for a like certificate issued in that State.

The State Board has adopted the following plan for the distribution of the funds for Smith-Hughes home economics:

A. A school may receive by fulfilling the Smith-Hughes requirements as listed, one-half of the salary of a home economics teacher from Federal funds and one-fourth of the salary to be paid from State funds, leaving one-fourth of the salary to be paid from local funds. This reimbursement is made according to the State salary scale for reimbursement of not more than \$1,000 for a teacher of home economics during her first year of service, \$1,100 for her second year of service and \$1,200 for her third or more years of service.

Funds
Available

Proposed two-year course of home economics for High Schools that will meet the Smith-Hughes requirements and will at the same time prepare students for college entrance.

Two year
Smith-
Hughes
Course

FIRST YEAR:

1. Home Economics. 5-90 min. periods 1 unit.
Food Study, sewing, textiles,
home management, and sanitation. or
2. Related Subject. 5-60 min periods 1 Unit.
General Science or its equivalent. (2-90 min. & 3 45-min.)
3. English. 5-45 or 60 min. periods 1 Unit.
4. Mathematics. 5-45 or 60 min. periods 1 Unit.

SECOND YEAR:

1. Home Economics. 5-90 min. periods 1 Unit
Food study, meal planning,
home nursing, budgeting, and
elementary dressmaking.
2. Related Subject. 5-60 minute periods 1 Unit
Biology or its equivalent. (2-90 min. and 3-45 min.)
3. English. 5-45 min. or 60 min. 1 Unit
4. Mathematics. 5-45 min. or 60 min. 1 Unit

In schools of 25,000 population this same daily schedule for high school pupils may be followed with the changing of 90 minutes to 120 minutes for home economics.

In order to give schools unable to meet the Smith-Hughes requirements for home economics an opportunity to offer courses in home economics, the State Legislature has provided a small fund to be used for this purpose. The following requirements must be fulfilled before a school is eligible for aid from this fund:

1. Ninety minutes daily given to home economics instruction in each of two classes. This plan will give a student an opportunity to earn two units of credit in home economics.
2. Each class must enroll a minimum of ten students and a maximum of not more than twenty-five students.
3. Adequate housing, equipping and maintenance shall meet the requirements as outlined in the State plan for Smith-Hughes home economics.
4. The teacher of home economics must be a graduate of a four-year course in home economics beyond the four year high school. Graduates of this full course will be entitled to a special Home Economics Certificate which will entitle the holder to teach in the State aided home economics departments in South Carolina. The State Board has adopted the following plan for the distribution of funds for State aided schools:
 - A. A school may receive by fulfilling the requirements for State aided home economics, \$240 for the first year, \$300 for the second year, and \$360 for the third and each succeeding year in addition to the regular State High School Aid.

These State aided schools compare with the Smith-Hughes aided schools as follows:

STATE AIDED	SMITH-HUGHES AIDED
Home Economics, 90 min. daily.	Home Economics, 90 min. daily.
Science recommended but not segregated.	Related Science, 60 min. daily.
Teacher gives 180 minutes of her time to home econ. Other time may be devoted to teaching other High School subjects.	Classes segregated in related science.
Teacher holds a Special Home Economics Certificate.	Teacher gives full time to home economics.
State Aid \$240.	Teacher holds a Professional Home Economics Certificate.
	Federal and State \$750.

REFERENCE BOOKS FOR TEACHERS OF HOME ECONOMICS:

Clothing for Women, Baldt—*Lippincott Co., Philadelphia.*

Clothing, Choice, Care and Cost, Woolman—*Lippincott Co., Philadelphia.*

Textiles, Woolman & McGowan—*Macmillan Co., New York.*

Food Products, Sherman—*Macmillan Co., New York.*

Chemistry of Foods and Nutrition, Sherman—*Macmillan Co., New York.*

Successful Canning and Preserving, Powell—*Lippincott Co., Philadelphia.*

Table Service, Allen—*Little, Brown & Co., Boston.*

Up-to-date Waitress, Hill—*Little, Brown & Co., Boston.*

Home and Community Hygiene, Broadhurst—*Lippincott Co., Philadelphia.*

Housewifery, Balderston—*Lippincott Co., Philadelphia.*

The Business of the Household. Taber—*Lippincott Co., Philadelphia.*

A Manual of Homemaking, Van Rensselaar, Rose & Cannon—*Macmillan Co., New York.*

Furnishing the Modest Home, Daniels—*Atkinson, Mentzer & Grover, New York.*

The Newer Knowledge of Nutrition, McCollum—*Atkinson, Mentzer & Grover, New York.*

Dietetics for High Schools, Willard & Gillett—*Macmillan Co., New York.*

Care and Feeding of Children, Holt—*Macmillan Co., New York.*

Personal Hygiene and Home Nursing, Lippitt—*World Book Co., New York.*

Teaching of Home Economics, Cooley, Winchell and other—*Macmillan Co., New York.*

MAGAZINES FOR HOME ECONOMICS DEPARTMENT:

Journal of Home Economics—1211 *Cathedral St., Baltimore, Md.*

American Cookery—*Boston Cooking School Magazine Co., Boston.*

Good Housekeeping—119 W. 40th St., *New York.*

American Food Journal—*Chicago, Ill.*

BULLETINS FOR HOME ECONOMICS DEPARTMENTS:

Each school should be placed on the mailing list of U. S. Department of Agriculture, Washington, D. C., Federal Board of Vocational Education, Superintendent of Documents, Washington, and the Extension Division of the various Agricultural Colleges.

Federal Board for Vocational Education has published three bulletins which will prove of great assistance to every teacher of home economics. These bulletins should be secured, catalogued and kept in usable form, in every home economics department:

Clothing for the Family, Bulletin No. 23, Home Economics Series No. 3.

Use and Preparation of Foods, Bulletin No. 35, Home Economics Series No. 3.

The Home Project—Its Use in Homemaking Education, Home Education Series No. 4.

REQUIREMENTS FOR DIPLOMA HIGH SCHOOLS:

A four-year curriculum.

A thirty-six week (180 day) school year.

The full time of at least three high school teachers.

Fifteen credit units grouped as on page 24.

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